

The SHIPPING WORLD

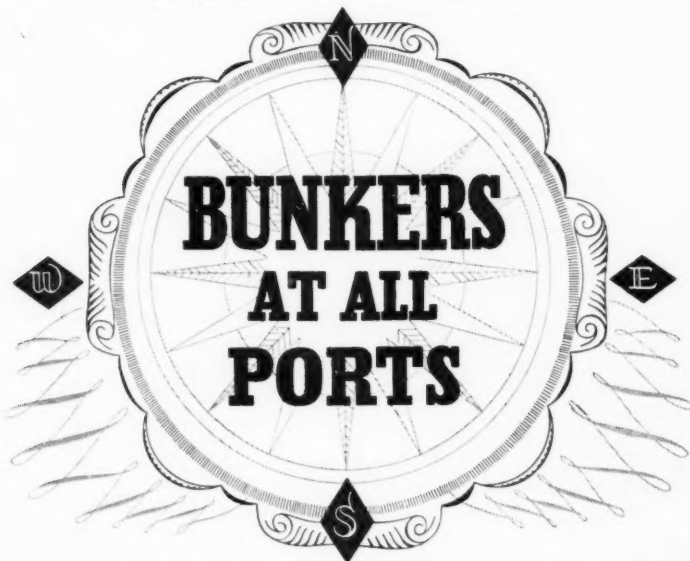
AND SHIPBUILDING & MARINE ENGINEERING NEWS



VOL. CXXIV No. 3007

WEDNESDAY, FEBRUARY 14, 1951

Price 1/6



CORY BUILDINGS • FENCHURCH ST • LONDON • E.C.3



SHARPNESS DOCKS

SPECIALISE IN HANDLING
GRAIN & TIMBER DIRECT
EX SHIP TO CANAL, RAIL
& ROAD

Granaries and timber sheds
available for storage

Modern cranes and pneumatic suction plant ensure
quick turn round



For particulars apply to :—
Divisional Waterways Officer,
Docks and Inland Waterways
Executive,
Dock Office, Gloucester.
Tel : Glos. 24421 . . . S'ness 228

THE DOCKS AND INLAND WATERWAYS EXECUTIVE

"Hero" and "Hydra"
One of two for
Far Eastern Coasting



HALL RUSSELL & CO. LTD
ABERDEEN



YBARRA AND COMPANY

In 1878, the need for shipping between ports of the Spanish coast led to the founding of Ybarra and Company. Their services began with steamers of small size and moderate speed. Nowadays a fleet of 19 ships carries out frequent and regular sailings from end to end of the coast.

Through the years, too, Ybarra and Company — their ships named after the headlands of the world — have entered the passenger/mail services between Italy, Spain, Brazil and the River Plate. Best known of their oversea liners are *Cabo de Buena Esperanza* and *Cabo de Hornos*, each of 12,571 tons gross, and provided with refrigerated space for perishable cargoes.



paint protects

- against sun
and sea



wind
and weather

We are proud of the supreme reputation of Leigh's Marine Paints, established on performance—protection, durability, appearance and economy in use.

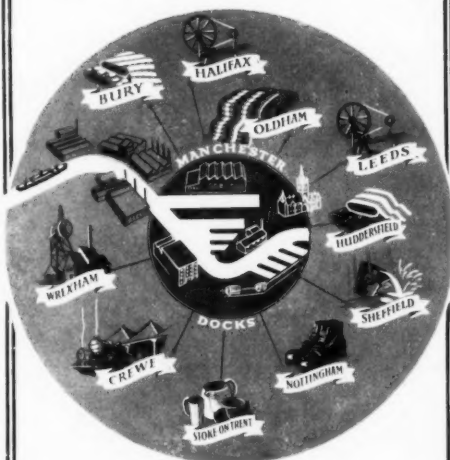
Our unique experience and technical knowledge in successfully meeting the requirements of marine painting are always at your service.



W. & J. LEIGH LTD. BOLTON, LANCs.
TELEPHONE: BOLTON 4277-9 TELEGRAMS: FABRIQUE, BOLTON

LONDON OFFICE: 15, ST. HELEN'S PLACE, E.C.1.
TELEPHONE NO.: LONDON, WALK 1407-5

THE PORT of MANCHESTER



MANCHESTER COTTONS—YORKSHIRE WOOLLENS—SHEFFIELD CUTLERY—BIRMINGHAM HARDWARE—THESE AND MANY OTHER INDUSTRIES ARE CONCENTRATED IN AN AREA WITHIN 75 MILES OF THE PORT.

ALL IMPORTERS & EXPORTERS

IN THIS GREAT MANUFACTURING AREA SHOULD CONSIDER THE ECONOMICS AND CONVENIENCE OF USING THEIR

NEAREST PORT

- EVERY SHIP'S BERTH Rail and Road connected.
- EXTENSIVE Warehouse and Open Storage accommodation.
- THROUGH RATES inclusive of ship canal toll quoted.
- COAL and OIL BUNKERING, graving docks and pontoons.

SITES FOR WORKS

Near the Manchester Docks and along the Ship Canal there are excellent sites with deep-water frontage—accommodating ocean-going Ships—with rail, road and inland waterway connections.

FOR PARTICULARS CONCERNING THE PORT APPLY TO THE
MANCHESTER SHIP CANAL COMPANY,
KING STREET, MANCHESTER.

The "SIR THOMAS BROCKLEBANK"

DIESEL - ELECTRIC - *the ideal machinery*



Built by Philip & Son, Ltd., Dartmouth, to the design of Messrs. Graham & Wainough, Liverpool, for the Mersey Docks & Harbour Board.

- ★ **Compact machinery layout**
- ★ **"Finger Tip" control and maximum manoeuvrability**
- ★ **Minimum standby losses but full power immediately available**
- ★ **Non-reversing interchangeable engines with ease of maintenance**

G.E.C.

PROPULSION

TURBO-ELECTRIC-DIESEL-ELECTRIC

For all classes of vessel

THE GENERAL ELECTRIC CO. LTD., MAGNET HOUSE, KINGSWAY, LONDON, W.C.2

ALONG THE WAY OF . . . TWA

You Can Ship Almost Anything Anywhere



by TWA AIR CARGO

SPARES, OPTICALS, TEXTILES, . . . all are safely and quickly shipped overseas at low cost via TWA all-cargo planes to U.S.A. and many other countries.

TWA—the modern way to ship

TWA all-cargo flights depart every week from important industrial centres . . . assure prompt deliveries from these and connecting cities to any point in U.S.A. Low rates. Fast service. Whenever you have a shipping problem . . . call TWA.

When You Ship via TWA

YOU SAVE MONEY—crating, insurance, warehousing.

YOU SAVE TIME—days, weeks, even months.

YOU SAVE WORK—simplify your shipping problems.

Make one call . . . get one air waybill, one invoice.

YOU INCREASE SALES—shipments arrive fresh . . . ahead of competition.

See your shipping agents or call TWA today.



TWA

TRANS WORLD AIRLINES

U.S.A. . EUROPE . AFRICA . ASIA

All TWA flights carry Air Cargo and Air Mail

200 PICCADILLY, LONDON, W.1. Tel : REGent 3211



Scheduled FREIGHT Services

REGULARLY throughout the week BEA freighter aircraft leave Northolt for Paris, Amsterdam and Copenhagen. Just part of BEA's fixed freight schedule . . . just three of BEA's regular "freight runs" between London and the chief industrial and business centres of Europe.

Take advantage of these freight schedules to quote earlier delivery dates, beat competitors, and get your goods there first. Remember that you incur lower packaging costs, less risk of damage in transit, lower insurance rates.

Internal freighter service. Manchester to London, connecting with Liverpool (service operates Thursday evening in each direction).

For full details of our schedule ask your Freight Agent, any BEA office, or telephone Western 7227, Wexlow 4311.

BRITISH EUROPEAN AIRWAYS





***to meet
specific needs . . .***

The "Bristol" aircraft and engine production programme provides for world-wide air-line needs . . . long-range trans-oceanic air-liners . . . medium-range aircraft primarily for the Empire routes . . . also freight-planes and helicopters . . . "Bristol" sleeve-valve engines and turbines continue to be among the most widely used power-units in the aircraft industry.

THE ***Bristol***

AEROPLANE COMPANY LIMITED · ENGLAND

STANHOPE LINE

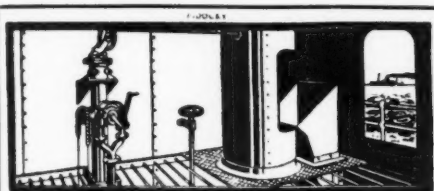


Stanhope Steamship Company Limited

**Large Fleet of modern Cargo
Vessels and Tankers, rang-
ing from 3,200 tons to 16,600
tons deadweight.**

**MANAGERS : J. A. BILLMEIR & CO. LTD.
9 ST. HELEN'S PLACE, LONDON, E.C.3**

Telephone: London Wall 7721 Telegrams: Billmeir, London
Branches: Cardiff, Hull, Newcastle-upon-Tyne and Glasgow



THE "CROMPTON" Atmospheric Silent Ash Hoist

Operated from Stokehold floor
Overtime unnecessary.

Ashes discharged by men on watch.

BLUNDELL & CROMPTON LTD.

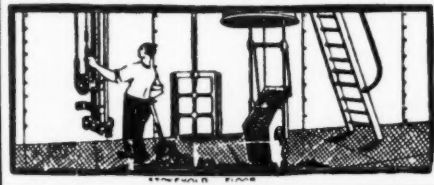
Engineers Ship Repairers Founders Coppersmiths

Head Office and Works

West India Dock Road, LIMEHOUSE, LONDON, E.14.

Branch Works, Tilbury Docks, Essex

Telephone: EAST-3838 (3 lines) Telegrams: "Blundell." Phone: London



REPAIRS on the BRISTOL CHANNEL

MOUNTSTUART DRY DOCKS

LIMITED.

- | | |
|------------------|---|
| CARDIFF | - Mountstuart Dry Docks
Channel and Bute Dry Docks |
| NEWPORT | - Eastern Dry Docks
Tredegar Dry Dock |
| BARRY | - The Barry Graving Dock and
Engineering Co., Ltd. |
| AVONMOUTH | Works adjoin Public Dry
Docks. |

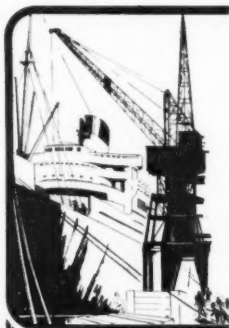
**SPECIALLY EQUIPPED FOR
DIESEL ENGINE REPAIRS**

REPAIRING BERTHS & JETTIES

Head Office : Cardiff.

Telegrams : "Mountstuart."

'Phone: 5103



The
PORT
of

LIVERPOOL

ROAD, RAIL and CANAL connections with
LANCASHIRE, YORKSHIRE and the MID-
LANDS.

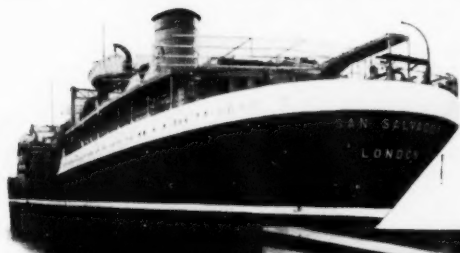
SHIPPING SERVICES to all parts of the
WORLD.

Enquiries to:—

R. J. HODGES, General Manager & Secretary
MERSEY DOCKS & HARBOUR BOARD
DOCK OFFICE - - - - - LIVERPOOL 3
Tel: CENTRAL 6010 Grams: "Neptune, Liverpool"

or the Board's Traffic Representatives:
LONDON: 44/46, Londenhall St., E.C.3. Tel: ROYAL 7148
BIRMINGHAM: 95, New Street. Tel: MIDLAND 2376
BRADFORD: Broadway Hse., Bank St. Tel: Bradford 25684

"HOLOPLAST" Bulkhead Panels



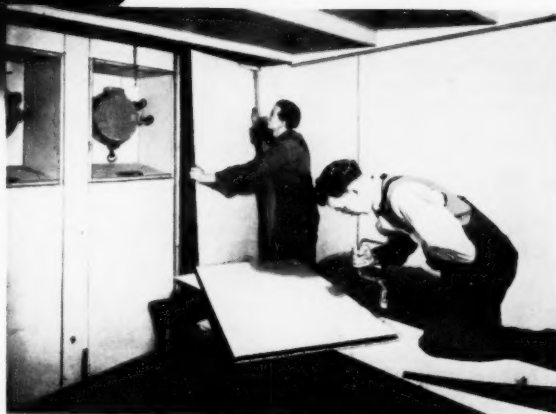
**GOTO
SEA
AGAIN**

The New Tanker
"SAN SALVADOR"

for the
**EAGLE OIL AND
SHIPPING CO. LTD.,**

now being completed at the yards of
**FURNESS
SHIPBUILDING CO. LTD.,**

has nearly all interior accommodation
built of **"HOLOPLAST"** Panels.



Chosen for Economy and Efficiency

6 IMPORTANT REASONS

why **your** organisation
can benefit by the use
of **"HOLOPLAST"**

- ★ **NON-INFLAMMABILITY.**
"HOLOPLAST" does not support combustion or spread flames, a most important factor on tankers.
- ★ **VERMIN PROOF.**
"HOLOPLAST" is impervious to vermin, white ants and termites. Is, therefore hygienic and permanent.
- ★ **MAINTENANCE COSTS.**
"HOLOPLAST" panels have a hard and durable decorative surface. Maintenance costs are halved.
- ★ **CORROSION PROOF.**
"HOLOPLAST" is unaffected by sea water, dilute acids, oils, spirits and similar liquids. Is unaffected by changing climatic conditions.
- ★ **ERECTION COSTS.**
"HOLOPLAST" panels are themselves complete structural units. They save many man hours in quick erection. They are also easily cut, sawn and drilled by normal joinery methods.
- ★ **CAVITIED STRUCTURE.**
The cavitied structure of "HOLOPLAST" gives it a higher strength/weight ratio than steel. It also allows pipes and cables to be economically fitted within the panel and provides secure fixing for fittings. Can be made highly resistant to heat and cold alike, by suitable fillings.

HOLOPLAST

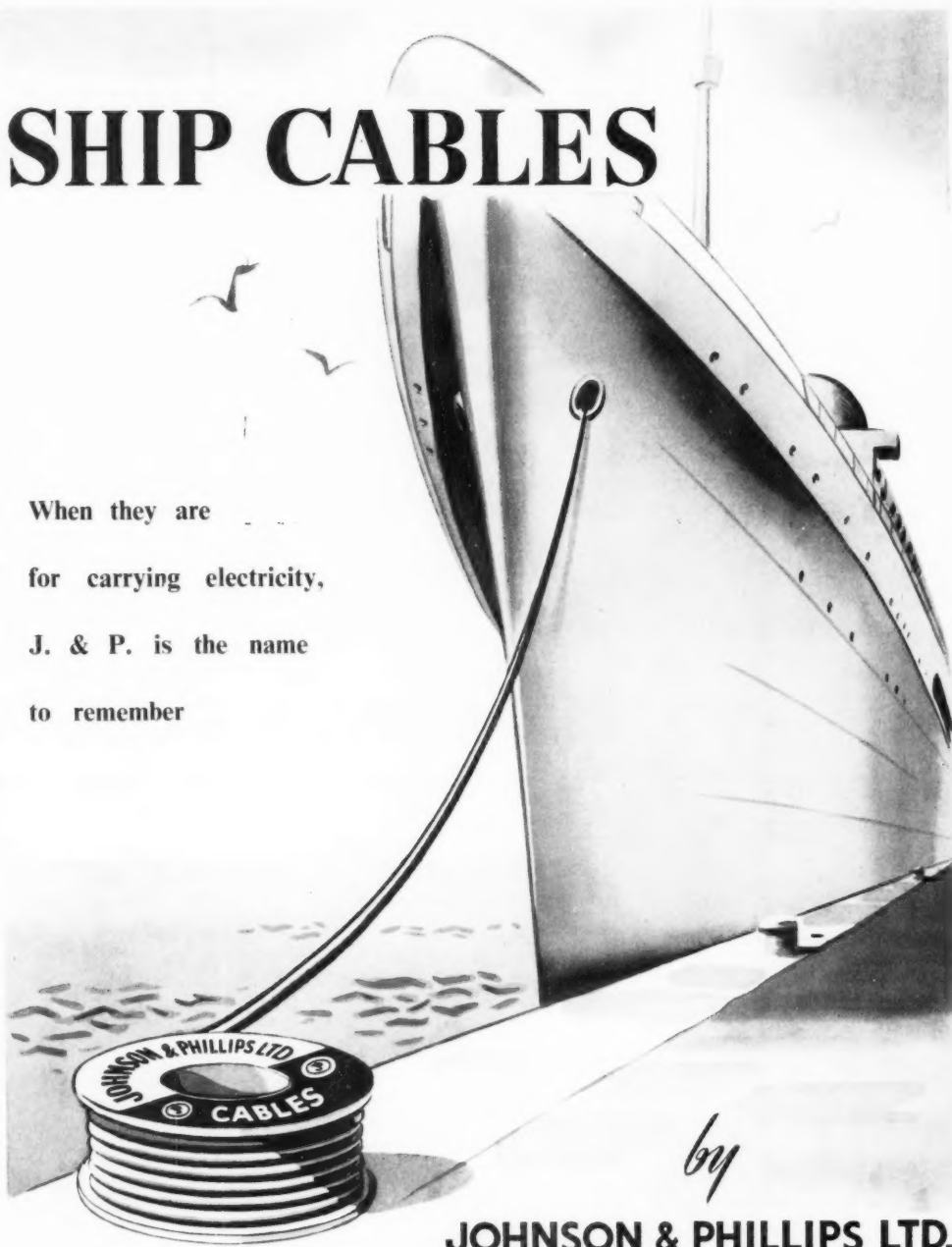
NO MATERIAL LICENCES
REQUIRED.

Manufactured by : HOLOPLAST LIMITED

Sales Office : 116, Victoria Street, London, S.W.1. Tel : VICtoria 9981 and 9354, 7.
Head Office and Works : New Hythe, Near Maidstone, Kent. Tel : AYLesford 7361.

SHIP CABLES

When they are
for carrying electricity,
J. & P. is the name
to remember



by
JOHNSON & PHILLIPS LTD.

CHARLTON, LONDON. S.E.7

 *The mark that means that "little more" in quality*

The SHIPPING WORLD

AND SHIPBUILDING & MARINE ENGINEERING NEWS

The Oldest Weekly Journal devoted to Shipping, Shipbuilding,
Marine Engineering, Shiprepairing, Insurance and Finance

FOUNDED



1883

Chairman and Managing Director of The Shipping World, Ltd.:—SIR ARCHIBALD HURD

Editor:—PETER DUFF

Managing Editor:—RONALD KENDALL, M.C.M.S., A.M.I.N.A.

Advertisement Manager:—M. B. FIELD

Annual Subscription 70s.

Head Offices: 1, Arundel Street, London, W.C.2. (Temple Bar 2523)

Telegrams: "Shipping World," London

Northern District Manager: W. S. Wilson, M.I.E.E., 27 Exchange

Buildings, Newcastle-on-Tyne. Telephone: Newcastle 27078

Vol. CXXIV.

WEDNESDAY, FEBRUARY 14, 1951

No. 3007

The Changing Balance of Sea Power	167	Burden of Taxation	176
Current Events	167	Air Transport and Packaging	177
On the "Baltic"	171	Air Freight Market	179
Shipping Supply and Demand—II...	172	Round the Shipyards	180
Shipping and Shipbuilding in 1950	173	Motor Tanker "Hoegh Arrow"	181
Coal and Oil	174	Electrification of Shipyards	185
Recent Publications	174	"... Twelve Passengers"	187
Norwegian Shipping and Shipbuilding	175	New Contracts, Launches, Trial Trips	188
American Bureau of Shipping	176	Maritime News in Brief	190

"Get me a seat on Sabena"



... that is the call of experienced air travellers, who know also that SABENA is the speediest and most satisfactory way of sending goods from London or Manchester to every important trading centre in the world.



Freight by Sabena saves packing and insurance costs, reduces risk of damage and pilferage, brings faster repeat orders, making for quicker turnover and greater profit.



Use Sabena passenger and FREIGHT Services to Europe, South Africa, Congo, U.S.A.

SABENA BELGIAN AIR LINES

205, REGENT STREET, LONDON, W.1. (Mayfair 8292)
or 32, DEANS GATE, MANCHESTER 3. (Deansgate 6956)

COMPARISONS

of

VALUES of IMPORTS

into the United Kingdom

	AUGUST 1939 £	AUGUST 1949 £
Pottery, Glass, Abrasives, etc.	527,612	453,258
Iron and Steel and Manufactures thereof	2,123,563	3,583,538
Non-Ferrous Metals and Manufactures thereof	3,312,861	9,023,581
Chemicals, Drugs, Dyes and Colours	1,582,389	1,566,361

TO PROVIDE PROPULSION AND AUXILIARY POWER
UNITS AT A COST THAT WILL INVITE COMPARISON

WRITE TO

R. A. LISTER (MARINE SALES) LTD.
DURSLEY, GLOUCESTERSHIRE.



THE SHIPPING WORLD

THE CHANGING BALANCE OF SEA POWER

THERE has been a great expansion of the world's merchant fleets, as revealed in the latest Appendix to Lloyd's Register Book, and disquieting changes have occurred in the standing of various nations. For instance, compared with 1949, there were 2,012,000 tons gross more ships afloat in July last. If the vessels in reserve in the United States be deducted (14,000,000 tons in July, 1950, but somewhat less today owing to the Korean war), the tonnage under all flags which is available for trading is about 70,500,000 tons gross. Compared with the position in 1939, on the eve of the Second World War, the largest increases have been in the United States (16,152,000 tons), Panama (2,644,000 tons), Canada (708,000 tons), Argentina (623,000 tons) and Norway (622,000 tons); while the countries with decreases are Germany (4,023,000 tons), Japan (3,759,000 tons), Italy (844,000 tons) and Greece (432,000 tons). The deduction of the American "mothball" fleet reduces the expansion of that country to a matter of just over 2,000,000 tons, while Panama, which Lloyd's Register did not notice separately up to 1925, when it had only 85,000 tons, now has 3,361,000 tons gross. Shipowners, and indeed, all who are concerned with the designing, building and equipping of ships in this country, would welcome a carefully prepared report on this change in the balance of sea power, with particular reference to the influence of flag discrimination. What will be the effect on international transport by sea when, and if, Germany, Italy and Japan have rebuilt their merchant fleets to at least prewar strength—an addition of over 9,000,000 tons to the world's total tonnage? These will be mainly new ships, embodying all the experience of the past ten or eleven years, whereas one-quarter of the effective tonnage afloat today (the defeated nations being represented by comparatively little carrying power) is "25 years old and more," as Lloyd's Register laconically records.

Another subject for consideration might be the reduction in the number of ships of the smaller size, and especially those of between 4,000 and 6,000 tons. Of ships built since the war, the largest amount of tonnage falls in the 8,000 to 10,000 tons size group. A change is also indicated in the size pattern of world

tonnage by an increase in numbers of ships of between 10,000 and 20,000 tons, from 496 in 1939 to 1,032 in 1950, of which 734 are oil tankers. The tendency revealed by these figures, which apply not only to this country, famous once for its "handy tonnage," but to the whole world, would repay examination, to extract any lessons which they suggest. Then again, there is the remarkable change in the means of propulsion and the type of fuel used, and 19 per cent of the ships afloat now depend on coal as compared with 45 per cent in 1939 and with 97 per cent in 1914. Shipowners everywhere have been abandoning solid fuel for liquid fuel for many years past, showing prevision and wisdom, in view of events, far greater than that of the "planners" who have landed us in the present coal crisis, which is affecting every industry and every home. The National Coal Board is now not only importing coal from the other side of the Atlantic, as well as from India and Nigeria, but has been compelled to deny coal to British ships and also to bunker depots overseas. We are, indeed, paying a heavy price for the political ideologies of planning and nationalisation.

Is it not clear that a close study of the figures of Lloyd's Register in their bearing on British shipping five or ten years hence would be of great value to all concerned with the sea services, for we are a great community of islanders? The revelations of such a study would have a salutary influence on British Ministers and their officials. The proportion of British tonnage, which was over 40 per cent of the world's total under all flags before the First World War, has been steadily declining in later years. It now amounts to a little over 25 per cent. Will it drop still lower when Germany, Italy and Japan are once more represented on the seas and oceans of the world by fleets at least as large as 12 years ago? What effects will the continued change in the balance of sea power have on the maritime industries of this country, which employ such a large proportion of its manpower? That is a matter of grave importance at a time when flag discrimination is increasing and the Royal Navy is a mere shadow of what it was in the days of the Two Power Standard and when, let us not forget, the shadow of war is over us.

Current Events

A Cold Storage Plan

MR. CHURCHILL and his supporters, by putting down a motion in the House of Commons condemning the disruption of the carefully articulated steel industry, made a last hour effort to implement the policy which is supported by both the Conservatives and Liberals, namely, the defence of free enterprise. The Government treated the debate almost contemptuously. They ignored all the facts—high and increasing output, cheapness of the products, absence of labour disputes

and various alternative proposals, including the one sponsored by the Trade Union Congress of controlling the industry without nationalisation. So tomorrow the Iron and Steel Corporation will begin its work in accordance with the Fabian policy of "gradualness", seeking the cooperation of the Iron & Steel Federation as its first step in the socialisation of the industry. In a speech which has attracted too little attention, Mr. Philip Fothergill, president of the Liberal Party organisation, who, therefore speaks with authority,

urged that major decisions of national policy should be supported by large majorities in Parliament. What is the position today? The Socialists have a small and precarious majority in the House of Commons, while at the last General Election they were in a minority of about 2,000,000 votes. As the official spokesman of the Liberals, representing from 8 to 10 per cent of the voters of this country, Mr. Fothergill remarked:—

Rocketing prices, penal taxation, the housing famine, the ground nuts scandals, the meat shortage, the fuel cuts, the threat of a new war after five years of uneasy peace, are just a few of the horrors that have emerged from the witches' cauldron. One would have expected long ago a political reaction strong enough to sweep the Government out of office.

He suggested that, in view of the critical conditions which exist today, a time of grave crisis when the nation should be united, all parties should agree to adopt a "five-year plan for putting Socialism into cold storage". To that proposal every industrialist, and especially shipowners, shipbuilders and engineers, who may suffer very seriously from the disruption of the steel industry, would cordially agree. But such an armistice would have no support from the Government for two reasons. A number of influential Ministers, like Shylock, demand their pound of flesh in the form of continued war on private enterprise as the price of their support. In the second place, Mr. Herbert Morrison, in spite of the crisis which is upon us, has insisted that the movement towards his idea of a Welfare State must not be delayed, and that the Festival of Britain must not be postponed. There must be no division in his party or a General Election, even though it will be difficult for men and women to be festive on a little more than a pennyworth of meat a day, washed down by expensive beer which has no body to it. So the official decision has been reached to forge ahead with the socialisation of industry and remain in office as long as the opponents of "Socialism in action" can be outvoted in the House of Commons by less than a dozen M.P.s—ten only in the case of the steel debate—out of a total representation of 625. Reminded by Gallup polls and their own organisers that the pendulum is swinging heavily against them in the country, Ministers and their supporters are determined to pursue without respite their schemes for undermining private enterprise so long as they can outvote its supporters by as many M.P.s as can be seated in one or two taxicabs. So, as the nation is being called upon to arm itself in defence of its liberty, the momentous surgical operation of cutting up the steel industry, and steel means armaments, is to be carried out whatever the consequences may be.

More Tanker Orders

EVEN the late Lord Fisher, who championed oil fuel when to do so was to be counted a heretic, and who was largely responsible for Mr. Winston Churchill's decision that the government of the day should take a financial interest in the new Persian Gulf oilfield, would, if he had been alive, have opened his eyes in amazement at the latest shipbuilding development—an order for no fewer than 21 tankers. Though it was confidentially known that negotiations with shipbuilders had been in progress for some time, and many thought that Sir William Fraser was hinting at a further building programme when speaking at a recent launch, Saturday's announcement that the British Tanker Co., Ltd., a subsidiary of the Anglo-Iranian Oil Co., Ltd., had placed such large orders with the leading shipyards took the country generally by surprise, for the secret of the size of the programme had been well kept. It is reported that the orders, distributed among some of the largest firms in England, Scotland and Northern Ireland, represent an expenditure of some £21,000,000. Of this sum, from 80 to 90 per cent will go in wages, if account be taken of the long line of supply from the coal mines to the building berths. Almost all trades will benefit from the

construction of these ships, not excluding those concerned with furnishing, for an oil tanker is not a vessel in which the comfort of the officers and men receives little attention. Indeed, accommodation in tankers has always been some way ahead of that in other cargo ships, but in recent years, as may have been noted from descriptions of tankers in *THE SHIPPING WORLD*, cabins, recreation and dining rooms now provide a very high standard of shipboard amenity, a trend in which the British Tanker Company has played no small part. Great technical interest will be displayed in what may be called the "supertankers," of which six, each of some 32,000 tons deadweight, are included in the new programme. The new contracts represent a further guarantee of continued employment, while the ships will add to the country's strength in the event of war. There are still several shipyards able to quote if shipowners come along wanting tramp ships, as such vessels are of more moderate dimensions. There are berths which are or may be in the near future vacant for such vessels. This, the greatest shipbuilding order ever placed in Britain or any other country, will not exhaust the capacity of the industry to accept future contracts whether for British or foreign owners. This is a fact to be emphasised.

Shipowners and Shippers

MR. RONALD FARQUHARSON, general manager of Imperial Chemical Industries, Ltd., has been making some appropriate and timely remarks on the relations of shipper and shipowner. He had found, he confessed, that shipowners were by no means an autocratic body of men and that conferences were not formed solely with the object of acting as mutual protection societies lined up in strength to do battle with the exporters. He admitted that it was a much easier matter for the shipper to be able to assess in general terms what rate of freight a commodity might stand in a specific market than it was for the shipowner to calculate whether a rate of freight was economic or otherwise. Though he was a shipper, as distinct from a shipowner, he conceded that it was necessary to bear in mind the fact that to manipulate and balance freight earnings against operating costs must be a hazardous undertaking, since the classes of cargo carried changed from voyage to voyage and no factor could ever be considered with certainty beforehand. He added that few, if any, owners could gauge from one voyage to another such contingencies, or, indeed, what overall tonnage they might be called upon to carry. To that had to be added the uncertainty and even more changeable factor of homeward freights. "In the case of one shipment a rate of freight on a low-valued commodity may be remunerative, and on the next occasion it may well prove to be otherwise". The whole matter, in his opinion, boils down to an appreciation by the shipper of the difficulties with which a shipowner may be faced in an overall assessment of "paying" cargo, and of the uncertainties with which he has to cope from voyage to voyage. It would be an education to shippers if they could read in full Mr. Farquharson's statement. At a time when conference rates are being raised and tramp freights are moving upward, they would be wiser, if not happier, if they understood the facts of the situation.

Initial Allowances

THE initial allowances—now 40 per cent of the prime cost of new plant or machinery—are a considerable, though temporary, benefit in a period of extensive plant replacement at high cost. Shipowners, now paying two or three times more for new tonnage than before the war, have especially appreciated the easing of their current financial burdens. But none of them is blind to the fact that the concession might leave an awkward gap in the closing years of the economic life of a vessel. They are taking the necessary steps to avoid this. Interesting in this context is the statement of Sir Maurice Denny in explaining the latest accounts

of the British & Burmese Steam Navigation Company. Concentration of the relief into a period which is approximately half the normal life of a ship, while very acceptable, means, he points out, that the load of taxation in the remaining years will be increased. This company is, therefore, increasing the sums to be written off the first cost of new vessels on delivery to 40 per cent, and the annual charge to 5 per cent also on first cost, the former to be debited to building and renewal reserve and the latter to profit and loss annually. This arrangement will reduce the writing down period from 16½ years to 12 years, and will restrict the depreciation charged against the annual profits to the period during which taxation relief is granted, thus more or less equalising the position. The majority of shipping companies are using this or similar methods, thus giving further proof of the industry's care for its long-term financial stability. This is obviously a wise policy, but as Sir Guy Ropner, and more recently Mr. Termand Sloan and others have remarked, the payment of a high rate of taxation on undistributed profits remains the dominant problem. High taxation must result in a decline in the strength of British shipping, a reduction in its invisible exports and, ultimately, unemployment in the maritime industries.

The Burntisland Offer

SHAREHOLDERS of the Burntisland Shipbuilding Company would, in the opinion of financial experts, be well advised to accept the offer made to them of £7 5s. per £1 share. It remains open until February 21. Acceptance is recommended by the directors who have piloted the company so successfully in past years. They propose to accept in respect of their own holdings. The highest price reached by the shares was in 1947, when they touched 69s. 3d. In 1939, they were down to as low as 18s. 9d. At the price offered the shares yield 2.8 per cent only on the 20 per cent dividend regularly paid since 1945-46 and, while it is true that this distribution was more than five times covered in 1948-49 and more than six times covered in 1949-50, the price is very reasonable on the dividend basis and makes allowance for the width of the protective gap between earnings and the dividend payment. The offer price is equally reasonable when measured by the balance sheet figures. At March 31 last, taking the Hall Russell interest at the cost value (£163,000) of the shares held in that subsidiary, the £150,000 one-class capital of Burntisland was represented by net assets of £689,000, or rather more than 4½ times the capital in issue. It is, of course, true that shipbuilding profits are likely to be well maintained for at least two years ahead, and may even increase, but the shipbuilding industry, over the long term, is liable to sharp fluctuation of earnings. The balance is, therefore, in favour of acceptance of the offer now made. There is little doubt that, in view of the advice of Sir Wilfrid Ayre and his colleagues, other shareholders will follow their lead. The deal is, indeed, in that category of financial transactions under which both parties benefit.

Cargo-Handling Coordination

In a letter to THE SHIPPING WORLD as well as other papers, Mr. A. C. Hardy has drawn attention to international aspects of cargo handling, a subject which undoubtedly holds the key to any marked advance in efficiency of ship operation. The matter is one which has received special attention in this journal for some years, but it must be admitted that there have been few, if any, indications of a realisation that the seriousness of port delays demands action by Governments, ports authorities and shipping companies. Mr. Hardy rightly takes the view that even if co-operation between these bodies in Britain could be achieved, any proposals would be of little value unless progress in other countries were to be coordinated. He has, therefore, suggested an international cargo-

handling coordination committee, mentioning that such a proposal had been mooted in France and would receive some support in Holland. He reports that he has been asked to initiate steps which might lead to the eventual coalition of such an international organisation, but he stresses that, while it would be truly international, it would be completely non-Governmental in character. This is a most interesting proposal and it is hoped, as Mr. Hardy suggests, that many readers of THE SHIPPING WORLD may care to comment on it. There are, obviously, a great many implications, among which the need for coordination for defence purposes is perhaps predominant, though the economic necessity to curtail the time spent in port is almost equally evident. It is a matter for regret that the technical societies in Britain and other maritime countries have not hitherto given much attention to the subject, but this, in turn, is merely a reflection of a more fundamental need for cooperation between naval architects, marine engineers and shipowners on economic matters. There seems to be a clear division between what the shipbuilder considers to be his business and those matters which are the affair of the shipowner, while in the past cargo handling has been left too much to port authorities. In passing, it might be mentioned, as already commented on in THE SHIPPING WORLD, that among our many universities there is no chair of maritime economics.

Cunard Insurance Accounts

SPECIAL interest attaches to the report of the Comptroller and Auditor General on the Cunard Insurance Fund for the 1949-50 account, because it covers the final period in which the Government were interested in the *Queen Mary* and *Queen Elizabeth* as insurers. The circumstances which are already well known, were, briefly, that when, on January 1, 1950, the two great liners were transferred from Cunard White Star, Ltd., to the Cunard Steam-Ship Co., Ltd., the Government could not have continued as an insurer without amending the Cunard (Insurance) Agreement Act, 1930, and since the open market was prepared to give cover to the full amount required, the Government's policies were cancelled. The accounts, therefore, cover the period April 1 to December 31, 1949, and are final insofar as the contract of insurance is concerned, although future accounts dealing with additional premiums, claims, returns and other credits and debits on expired contracts, will be necessary. They show that the premiums received on the 1949-50 contract totalled £52,438. Interest on investments amounted to £25,628 and with a balance of £1,000,818 at the beginning of the period, the total on the credit side is £1,085,884. On the debit side there are claims of £53,130 in respect of the *Queen Mary* and £37,502 in respect of the *Queen Elizabeth*, these being due to heavy weather, grounding and other causes in previous years. With "underwriters' commission" of £1,593, the total outgoings amount to £92,225, the balance in hand being £993,659.

A Good Profit

This balance will, of course, be further diminished by the payment of outstanding claims and other liabilities, no indication of which is given in the account, but it is evident that the Government, as an insurer, has made a good profit, albeit on a "book" of only two ships involving liabilities which would be terrifying to any private insurer. This is apparent when the amounts covered on the two ships for the period under review are examined. On the *Queen Mary*, the initial insured value of £4,800,000 was increased by £1,000,000, with a further £150,000 on "total loss only" conditions. Of the total of £6,250,000 on this vessel, the Government covered £2,785,750, or more than double the fund available, built up since 1930. On the *Queen Elizabeth*, the initial insured value of £5,600,000 was also increased by £1,000,000, with a further £400,000 effected on "total loss only" conditions, so that in her case the aggregate amount at risk was exactly

£7,000,000, of which the Government insured £3,360,750. On the two ships, with an insurance fund of about £1,000,000, the State, as an insurer, ran a potential liability of £13,250,000. With the resources of the whole nation behind the insurance fund, this was not the harebrained underwriting it would have been had private enterprise entered on any such undertaking, but the latest figures are an eloquent argument in favour of insurance by an industry which has behind it specific funds adequate to any calls likely to be made on them, and is not dependent on what amounts to a guarantee which, in the last resort, is backed by the taxpayers' money.

Electricity and Marine Engineers

A GOOD deal has been said about the training of marine engineers, but what little headway has been made, has been apparently lost in a sea of controversy. One of the thorniest problems is whether a marine engineer can be suitably trained to be responsible for the increasing amount of electrical equipment in modern ships, or whether a specialist in electrical engineering should be responsible. No one will deny that an experienced electrical engineer is most valuable in many ships, but neither can it be denied that marine engineers have shown themselves most competent in the operation and maintenance of vessels with extensive electrical installations and even in diesel-electric and turbo-electric vessels. It is not generally realised that there are an appreciable number of T2 turbo-electric vessels in service which do not include electricians among their crews. Strange though it may seem, the engineers in most of these vessels express no anxiety to have the services of electricians but would prefer, if the staff were to be increased, a junior engineer to assist with the normal overhaul and maintenance work on the main engines and auxiliaries. Such an attitude underlines the weakness of the case for electricians in most ships, as it must be doubtful whether there is sufficient repair and maintenance work to keep an electrician constantly employed. The engineers have met the increase of electrical installations with aplomb and it is not unreasonable, therefore, if electricians are to be introduced to a greater extent, that they in turn should have some training in marine engineering, so that they can further contribute to the maintenance and welfare of the ship should there be insufficient electrical work during their working hours.

Spontaneous Combustion in Coal

FIRE attributed to the spontaneous combustion of coal cargoes and bunkers, although not so frequent in recent years, still remain a serious problem. There is a tendency, however, to use the term "spontaneous combustion" loosely. In his paper "Marine Gassing and Fire and Explosion Hazards," presented before the Institute of Marine Engineers last year, Mr. A. S. Minton defined spontaneous combustion as self-ignition which is the eventual outcome of self-heating in a commodity. In many cases, however, cases of outbreaks of fire attributed to self-heating and self-igniting processes have been caused, or the conditions created, by other factors, such as the stowing of coal against hot steam pipes. Such external factors are termed contributory causes, and it is interesting to note that Board of Trade Notice No. 106 suggests that many, if not most, outbreaks of fire in coal-fired or coal-carrying vessels are due, at least partly, to avoidable causes. Such avoidable causes include the stowing together of coal of different ages—from the time of mining—and faulty ventilation which allows air currents to flow through the coal. "Local heating," such as stowing coal against the source of heat, is another avoidable cause. It may be suggested that this is common knowledge, but a special report recently issued by the D.S.I.R. (Fuel Research) after special research into this problem, indicated that of all the cases investigated only 12 per cent were due to true spontaneous combustion. No less than 52 per cent were

due to direct or local heating. It is interesting, furthermore, to note that 40 per cent of the fires occurred in the tween-decks, 29.3 per cent in the lower side bunkers and 17.6 per cent in the lower cross bunkers. Recent figures are not available, but a survey some years ago revealed that out of a total of 30,000 voyages, one-quarter per cent of the voyages featured coal fires in either the cargo or bunkers, one-eighth per cent were short voyages in temperate waters and one-eighth per cent were long voyages through tropical waters. The size of the hold also appears to be an important factor as, of all the reported outbreaks of fire, in holds of coal, 50 per cent were in holds containing over 2,000 tons and only 1½ per cent in holds containing less than 500 tons.

The Launching of Ships

THE LAUNCH of a ship, of no matter what size or type, is usually something of an occasion and in the speeches which are usually made, either before or after the ceremony, mention is commonly made of the symbolism of the launch, the entry of the vessel into its native element, the beginning of a new stage of construction and so on. It would be merely giving credit where it is due, however, if some more far-sighted and enterprising spokesman were to pay tribute to the astonishing record of British shipbuilders for successful and safe launches, and to refer to the engineering problem involved in moving a mass of steel weighing up to 15,000 or 20,000 tons, out of direct control, over a distance which may be as much as 1,000 feet. Launches were not always so monotonously successful, even though earlier shipbuilders had to deal with much smaller moving masses. One can recall the several efforts which were made to launch the *Great Eastern*—sideways, in this instance—and the capsizing of at least one warship in both Britain and Italy at some time during last century. Nowadays, however, the whole thing is most carefully calculated, floating power at the inclination of the keel for various heights or river or tideway, strength, particularly at the moment when the stern lifts, the tendency for the stem to lift out of the fore poppets, stability at all stages, and so on. Nothing is left to chance except the elements, and the cautious shipbuilder is usually ready to postpone all his arrangements if there is too strong a cross wind on the day appointed. British shipbuilders frown on the Continental practice of one large and wide set of ways beneath the keel, with small bigwedges to give stability on the berth, and the almost universal practice is to have two sets of ways, equidistant from the centreline; there have been cases, however, including several battleships, where four sets of ways have been used because of the pressures exerted. Now come reports from Japan that at least a dozen vessels have been launched on what can only be described as ball bearings, and the thought arises that such a technique may be useful in decreasing the keel and way declivity given to a vessel in special circumstances. There are several fascinating conjectures which could be made, but the first doubt will be as to whether wood or iron shipwrights, or perhaps fitters, would be most involved in such launches.

SAYINGS OF THE WEEK

THE NEW ORDER

"Since, even in these days, one has to spend the greater part of life at one's employment, if there is no pleasure, joy or satisfaction in work, then it must make for a very monotonous life which no dog racing, filling up of pool coupons, pictures or radio can compensate for."—Mr. Theo A. Stephens.

"CHEAPEST IN THE WORLD"

"British steel is the cheapest in the world with the exception of Australia, where conditions are exceptional. Moreover, the rise in the price of British steel has been less, in comparison with 1938, than for any other group of manufactures for which figures are published."—Lord Dudley Gordon, chairman of Hadfields, Ltd.

ON THE "BALTIC"

EXCEPTIONAL ACTIVITY FOR BROKERS

By BALTRADER

AGENTS acting on behalf of charterers on the Baltic Exchange are having a trying day's work in the present state of the market. They have to deal with a surfeit of orders, of which many are quite definite, but others call for tonnage firm in hand for some time in order to test the possibility of a successful deal. In the latter case owners are seldom willing to tie their hands while there are almost equally interesting charters to be secured with a nod. It is, therefore, difficult to know the extent of employment available at the present time; but there is a good deal of business, firm or potential, held up because workable offers of tonnage have not been obtained. Shipbrokers, like their opposite numbers on the chartering side, are being kept very busy; they have to keep their principals advised of an exceptional variety of inquiry. They need to make a more extensive review than in former days, when a vessel approaches readiness, more particularly on this side of the world. Coal freights used to be obtained almost every day from the United Kingdom to the Atlantic Islands and River Plate, the Western and Eastern Mediterranean, as well as the Red Sea, India and Ceylon. A vessel would commonly be fixed in one of these directions and allowed to run for a month or more before homeward business was discussed. Nowadays, an owner will compare the result of sending his vessel in ballast to the Mediterranean or Black Sea or to the Eastern or Western side of North America. He may consider taking salt or fertiliser to the east, phosphate to South Africa or coal to the Plate. Alternatively, there are a great many regular or occasional time charterers who may be glad to take delivery at the home port; all these have to be daily interviewed by the broker. It is not surprising that the Baltic Exchange is a scene of lively activity, nor that the Exchange is indispensable to owners and charterers of all nations and a valuable source of revenue to this country.

No Sign of Recession

Not long ago freights appeared to have reached the high water mark; they showed no sign of receding, at any rate for early loading dates; but the last rate paid began to be regarded as sufficient for the next fixture. In the past week or two a rising tendency has shown itself once more, as a result of growing anxiety in Western Europe caused by vanishing stocks of coal. Freight rates from Hampton Roads have hardened and demand for tonnage to carry coal has made it difficult to find shipping for other urgent cargoes. For instance, tonnage must be chartered to take wheat from the U.S. Gulf and North Pacific ports and also from the River Plate to India. In that teeming country can be seen the early symptoms of a world food shortage which some authorities have foretold for future years. Disturbed conditions in the Far East have not prevented a substantial amount of shipping from being chartered in recent weeks to bring soya beans and maize to Europe from Manchuria and North China. Many fixtures have been arranged, generally with discharge in Antwerp or Rotterdam at 180s. per ton, or in Hamburg at 185s. Last year these cargoes were bought in great quantity by the British and Dutch Governments, but recent charters are understood to represent imports to countries in Eastern Europe. Most of the liner companies are still disinclined to charter tramp tonnage on the scale in which they operated before time charter rates were more than doubled. In some cases, tramp ships are being sought to lift cargoes which until recently would no doubt have been booked by the liner companies and shipped by them in time-chartered tramp tonnage.

A fair number of West African time charter rounds are being arranged and in view of the high rates of hire now in force the conference liner rate for cement to West Africa will include a surcharge of 40s. per ton to meet the increased cost of hiring tonnage. Liner companies on other routes have also put up their rates.

Rates are firm for cargoes from the River Plate to India and Europe. The limited amount of tonnage available appears to be assured of a strong market for months to come, and the maize harvest should produce a large quantity for export by contrast with last year's failure. The surplus ought to be ready for export in May or June according to the experience of prewar years; but, as J. E. Turner & Co., Ltd., remind us, the maize did not begin to occupy shipping in 1949 before October/November. If this happens again the Plate market may be quiet during the summer months.

Recent Fixtures

The trans-Atlantic freight market has been stronger than ever and charterers for coal, sugar and other cargoes have had difficulty in persuading owners to talk business. Tonnage has been fixed for coal from Hampton Roads to Rotterdam at \$13 and to Hamburg at \$14, free discharge. Many sugar cargoes from Cuba to the United Kingdom, near Continent and the East are waiting to be matched with suitable tonnage. The *Dunsley*, 5,000 tons, was fixed last week from Cuba to Montevideo at \$26. Grain is workable from the Gulf of Mexico to the United Kingdom and to India at full rates. Inquiry is well maintained for lumber carriers from the North Pacific to the U.K., Australia, South Africa and the Eastern United States. *Charlbury*, 8,900 tons, is fixed from North Pacific to the U.K. at 167s. 6d. f.i.o., lumber and general cargo, March/April, and 152s. 6d. has recently been paid for wheat from British Columbia to Cape Town-Durban range, June.

A good deal of business has been arranged from Manchuria and North China. *Liberator*, 10,000 tons, is fixed from Taku Bar or Chinwangtao to Antwerp or Rotterdam at \$275,000 for a mixed cargo, March/April. South Africa coal chartering is strong and active; 97s. 6d. has been paid, Lourenco Marques to Aden, May/June, and 120s., Durban or Lourenco Marques to West Italy, April/May. *Taybank*, 7,800 tons, obtained 165s. up and down River Plate to East Coast India, February. Time charter rates have risen as shown by the following fixtures: *Junecrest*, about 9,950 d.w., 10 knots on 22 tons oil, a West African round, delivery U.K. 35s. (continuation) and motor vessel *Rodsley*, 9,200 tons, 10 knots on 8 tons, 40s., 6/8 months, delivery Alexandria or Port Said, March/April.

Air Charter Business

A fairly active inquiry for charter planes is reported and fixtures include the transport of urgent ships' spares from the U.K. to Buenos Aires and Sydney, N.S.W. Requirements for carriage of medical supplies to Hong Kong have exceeded the capacity of the regular lines running from Britain, Scandinavia and the near Continent. Chartered planes are therefore in demand for this service, preferably the large 4-engined types which can offer at a lower rate of freight than smaller aircraft. Inquiry for passenger planes for summer traffic within the United Kingdom and Western Europe is maintained, but operators are reserved in committing themselves. They see good prospects of obtaining employment in long flights which show better results. American buyers are in the market to purchase British-owned planes of American origin at £18,000, or about £6,000 more than the present owners paid.

SHIPPING SUPPLY AND DEMAND—II

ARE THERE ENOUGH DRY-CARGO SHIPS FOR WORLD TRADE?

By PETER DUFF

THE FIRST article in this series, which appeared in last week's SHIPPING WORLD, outlined the principal factors which probably influenced the recent rise in tramp freight rates. It now falls to consider how long these factors are likely to continue to exert their influence, or whether any other factors are likely to relieve the pressure on tonnage, so that an estimate can be made as to the sufficiency of the tramp tonnage position. The greatest relief, it was pointed out, would come from the cessation of hostilities in the Far East, although some time would have to elapse before the backlog of commodity movements would be reduced, unless other factors were brought into play which would have the effect of increasing the availability of ships.

Benefits of Freedom in Trade and Supply

One of the most effective would be a return to more normal trading practice, and the abolition of bulk buying and chartering by Government departments. This has been stressed so often in the columns of THE SHIPPING WORLD that there is no need to dilate further upon it here; but the defects of bulk chartering, in particular, have never been more clearly illustrated than by recent events. If there are some arguments in favour of bulk buying in certain circumstances, any arguments that may be put forward in favour of bulk chartering have been manifestly refuted by the course of events. The power which a monopoly charterer can exercise in depressing freight rates when cargoes are scarce was amply demonstrated six months or more ago. He can reduce shipowners to their knees if things are entirely in his favour, but he cannot conceal his intentions for ever; and he cannot throw a colossal import programme into the ring without causing consternation in an international market. By doing so he immediately brings other charterers, and even other Government chartering departments, into the field and causes anxiety as to whether they will be able to cover their other commitments after all.

The Timber Control, for example, which has grossly mishandled softwood imports into the United Kingdom from the Baltic countries, refused to come to reasonable terms with shipowners during the normal shipping season. As a result, stocks in this country have fallen below the danger level, and Timber Control has been compelled to call urgently for ships to bring in North Pacific timber at the height of the freight boom. The National Coal Board knew in the summer that coal production was not likely to meet consumers' requirements during the year and that the importation of some American coal was likely to be necessary. But the Minister of Fuel and Power shrank from such a politically unpopular move as to start chartering even a few ships in the summer and autumn, when freight rates were easier and ships were more readily available. When chartering for Black Sea grain began in November, charterers were most reluctant to make any advance on the rate of 40s. they were offering, and failed to fix the number of vessels they needed, even at 50s. Before long timber and coal imports had become such a matter of urgency that the timber and coal charterers were crying out for ships. The Black Sea grain programme was by this time being imperilled, and the charterers were compelled to fix vessels at 81s. 3d. in January. Individual importers of bulk commodities of this nature would be far more careful to cover their requirements, both in buying and chartering, at the most favourable moment. If they did not, they would soon become bankrupt. They would charter ahead as far forward as possible and thus spread the demand for tonnage over a greater part of the year. By this means the carrying capacity of the ships is increased, for no

ship has yet been built which can carry two complete cargoes at one time. A ship which has three cargoes, at regular intervals, carries more than a ship which is empty all summer and full in winter. More cargo gets moved, and freight rates do not fluctuate so much; but this ideal can never be attained so long as bulk buying and chartering continue.

Ships New and Old

The bringing of new tramp ships into commission will, of course, increase the amount of tonnage available, but not much relief can be expected from this source on a short-term view. The number of dry-cargo vessels under construction for tramp shipowners is still very small, although there has been an improvement in the rate of contracting for such ships since the upward movement of freight rates began. During December, for example, orders were placed for 200,000 tons gross of cargo liners and tramps. On the other hand, the number of obsolescent ships in service is still increasing. According to the statistics compiled by THE SHIPPING WORLD of tramp ships of 3,000 tons gross and over on the United Kingdom and Colonial register and in private ownership, there were 621,472 tons gross of 20 years old or more at the beginning of 1949. By the beginning of this year the total had risen to 683,582 tons. Since 1948 new ships for tramp owners have been leaving the shipyards at the rate of only about 65,000 tons gross per annum. This rate amounts to only about 2 per cent of the present total tramp tonnage, whereas normal wastage in any year is bound to be higher than this.

There is, therefore, no room for complacency in the matter of replacing British tramp tonnage, and the same applies, in varying degrees to the other major tramp seafaring nations whose fleets, if they are back to their prewar volume, are so only because they contain a higher proportion of tankers than before the war. The prospects of a permanent higher level of employment for tanker tonnage are, of course, sound—far sounder than any prospects of continued full employment for dry-cargo tramp tonnage have ever been until now. Shipowners, therefore, have not had the inducement to build cargo vessels to the same extent. Furthermore, they have probably withheld the placing of contracts for such ships in the now vain hope that shipbuilding costs would decline. The high cost of replacing ships which were built before the war is, perhaps, the major deterrent to the ordering of new tramp tonnage, for the current rate of profits tax and income tax prevents owners from building up their reserves for replacement purposes, even with freights at present levels.

Scope for New Ship Designs

Although little relief of the tonnage position is to be expected from the building of new ships, some addition to carrying capacity might be made in the design of tramp ships to make them more suitable for existing conditions of world trade. This is a matter of some argument, but it is fairly reasonable to deduce that more attention will probably be paid to the building of dual-purpose ships. The Swedes, for example, have developed a ship type which is suitable for carrying exports of iron ore outwards and imports of oil homewards. During the war, tankers were adapted for the carriage of oil in one direction and grain or other cargoes on the return voyage. If the large numbers of tankers which now carry oil from the Middle East to North America could be economically and practicably used for the carriage of grain cargoes outwards, long voyages in ballast would be saved. In the absence of exports of coal from the United Kingdom, plans have already been made to fit bulk cargo

vessels with portable tweendecks, so that they can take manufactured cargoes outwards and return with bulk imports of grain and the like. Finally, there is the question of improving the turnaround of ships in port, and anything that can be done to the design of the ship's cargo-handling arrangements will be amply repaid by the increase in carrying capacity per year. On the other hand, the more likely solution of the turnaround problem lies with improvements in the ports themselves, in their facilities and labour performance.

What can be concluded, then, from this survey of a complicated problem? The first, and possibly the only, concrete fact is that there exists at the moment insufficient dry-cargo tonnage to meet world demand. It is equally clear that this shortage will continue until such time as the tense situation in the Far East is relieved—and there is no guarantee that even if the Korean affair is cleared up satisfactorily, something similar will not soon occur in another quarter. The rate of new building at the moment cannot hope to relieve the pressure on tonnage which will exist until the Far Eastern problem is solved. On the contrary, if events should develop into a full-scale war between East and West, tonnage will be so short that even the immediate recommissioning of the entire U.S. laid-up reserve fleet of 14,000,000 tons gross would be but another drop in the desert of war. This hard and unpleasant fact alone should be enough to make the British Government do its utmost for the shipping industry in the way of taxation relief for replacement purposes and new construction.

Need for More Dry-Cargo Ships

Should events turn out more favourably for mankind in general, and should a return to more peaceful and less tense international affairs be granted, there is still the proposition that existing dry-cargo tonnage is insufficient so long as bulk buying and chartering continue, owing to the wasteful employment of tonnage which they engender. Here again, one is faced with political uncertainty in any attempt to assess the likelihood of this change. But against the release of tonnage which would follow from the resumption of normal commercial practice in international trading, must be weighed the possibilities of a permanent increase in worldwide trade compared with the prewar volume. Higher standards of living in all parts of the world, and higher consumption of all sorts of commodities, are almost certain to be a permanent feature of human history. Everything points to the need for more and more ocean transport, for air transport can be of little use in the movement of bulk commodities, except in emergencies and on a comparatively small scale; and this means that more ships of the dry-cargo type will be needed in future years, whatever the course of events in Korea or at the next General Election.

Italian Tanker Fleet

The motor tanker *Volere*, built to the order of Achille Lauro, of Naples, was launched from the Ansaldo shipyard at Sestri Ponente (west of Genoa) on January 28. Of 17,500 tons gross and 26,000 tons d.w., the *Volere* is the largest oil tanker in the Italian fleet. Her main dimensions are: length overall 625 ft. 11½ in., length b.p. 593 ft. 8 in., breadth moulded 82 ft., depth to main deck 43 ft. 1½ in., and draught fully laden 31 ft. 11½ in.

This vessel represents a powerful addition to the Italian tanker fleet which, numbering 71 units of 2,000 tons d.w. and over on June 30, 1950, totalling 809,731 tons d.w., ranged seventh in the world tanker fleet. Including tankers below 2,000 tons d.w., the Italian tanker fleet consisted of 137 vessels totalling 548,405 tons gross on October 1, 1950, an increase of about 24 per cent over the gross tonnage of 441,569 (90 vessels) owned on June 10, 1940. The greater efficiency and speed of the vessels which make up the present tanker fleet, and their larger carrying capacity, suggest that the importance of the tanker fleet has been enhanced to a greater degree than would appear from the expansion of the gross tonnage. The 71 tankers of 2,000 tons d.w. and over owned on June 30, 1950, consisted of 24 motor vessels (235,841 tons d.w.) and 47 steam tankers (573,800 tons d.w.).

Shipping and Shipbuilding in 1950

Strength of the British Merchant Fleet

OFFICIAL figures published in the *Monthly Digest of Statistics* show that merchant vessels of 500 tons gross and over registered in the British Commonwealth on December 31, 1950, totalled 19,626,000 tons gross. Non-tanker tonnage registered in the United Kingdom and Colonies (excluding Dominions) increased by 647,000 tons gross, but this was largely accounted for by the transfer of 641,000 tons of Canadian ships to U.K. registry during the year. U.K. tanker tonnage increased by 261,000 tons gross. Comparisons with prewar figures are given in the accompanying table, from which it will be seen that although the present figure for U.K. tonnage (17,632,000 tons) is higher than in 1939 by 185,000 tons, the non-tanker section is lower by 713,000 tons gross, despite the transfer of Canadian ships.

BRITISH MERCHANT SHIPPING (Vessels of 500 tons gross and over) ('000 tons gross)						
Type	U.K. and Colonial	Other Commonwealth	Total	U.K. and Colonial	Other Commonwealth	Total
	Sept. 3, 1939	Dec. 31, 1949	Dec. 31, 1950	Sept. 3, 1939	Dec. 31, 1950	Dec. 31, 1950
Non-tankers: 1,600 t.g. and over	13,452	12,306	12,959*	900	1,722	14,681
500-1,599 t.g.	861	647	641	159	155	796
	14,313	12,953	13,600*	1,059	1,877	15,477
Tankers: 1,600 t.g. and over	3,007	3,608	3,873	165	173	4,046
500-1,599 t.g.	57	93	89	7	14	103
	3,064	3,701	3,962	172	187	4,149
Grand Total	17,377	16,654	17,562*	1,231	2,064	19,626

* Including 641,000 t.g. transferred from Canadian registry, but excluding 34,000 t.g. foreign tonnage on bareboat charter.

At the end of 1950 there were 1,861,000 tons gross of vessels of 100 tons gross and over under construction in Great Britain, of which 767,000 tons were for export. As will be seen from the table below, this tonnage is much the same as at the end of 1949, although the present export proportion is higher. Tonnage completed during the year, at 1,376,000 tons gross, was 15,000 tons greater than last year, while tonnage laid down (1,357,000 tons) was greater by 143,000 tons. The 1,050,000 tons of tankers of 1,600 tons and over under construction at the end of the year compares with 855,000 tons at the end of 1949, 620,000 tons at the end of 1948 and 414,000 tons at the end of 1947. A contrary trend is shown by non-tankers of similar size, which amounted to 761,000 tons at the end of 1950, compared with 939,000 tons in 1949, 1,238,000 tons in 1948, and 1,451,000 tons in 1947.

MERCHANT SHIPBUILDING IN 1950 (Vessels of 100 tons gross and over) ('000 tons gross)					
Type	Laid Down	Export	Completed	Under construction at end of period	Export
	Total	Total	Total	Total	Total
1,600 t.g. and over:					
Tankers	753	397	563	255	1,050
Non-tankers	549	119	737	176	761
100-1,599 t.g.	55	18	76	23	50
Total (1950)	1,357	534	1,376	454	1,861
Total (1949)	1,214	448	1,361	463	1,860

THE British Guiana Government collected some £78,500 during the first nine months of 1950 from ships calling at Georgetown through pilotage, lighting and tonnage dues.

DECCA RADAR is to be fitted in all ships under construction in Great Britain for the North American Shipping & Trading Co., Ltd. This includes two tankers of 31,000 tons d.w. each. A further nine ships of the General Steam Navigation Co., Ltd., are to be fitted with the equipment, making a total of 20 in this fleet.

THE second annual dinner of the General Steam "35" Club will be held on February 23 at Williamson's Tavern, Bow Lane, London, E.C.4. The "35" Club was formed in 1950 for all members of the clerical staff of the General Steam Navigation Co., Ltd., with 35 or more years' service with the company. There are now 58 members and five honorary members.

THE General Committee of Lloyd's Register of Shipping has decided to offer a scholarship in marine engineering, value £175 per year, and tenable for three years at a British university, to be awarded in 1951 under the auspices of the Institute of Marine Engineers. Particulars and entrance forms may be obtained from the secretary of the Institute, 85 Minories, London, E.C.3.

COAL AND OIL

COST OF UNITED KINGDOM COAL IMPORTS

AS WAS foreseen in the columns of THE SHIPPING WORLD, the economic extravagance of importing American coal to the United Kingdom has been accentuated by the unsuitability of many British ports for dealing with the discharging of coal cargoes in bulk. Since delays have been incurred in South Wales ports, built to handle the export of coal to all parts of the world, ocean-going ships with coal cargoes have had to be diverted to Rotterdam, where the cargoes are being transhipped into coasters for delivery to ports which can handle such vessels. All this handling adds further to the fantastic cost of coal imports. The Minister of Fuel and Power, asked in the House of Commons to reveal the price per ton, including freight and all other charges, imported into the United Kingdom, refused to disclose the prices paid until all the transactions had been completed. He did disclose, however, that the National Coal Board had bought and chartered ships for 1,730,300 tons of coal from the United States, India and Nigeria. The coal was in four categories—large, graded, small and unscrained. According to trade and navigation accounts the average f.o.b. price per ton of those classes exported from the United Kingdom in 1950 were: Large, 81s.; graded, 77s. 6d.; small, 56s. 2d.; and unscrained, 73s. 7d. He emphasised that those were average figures and there were wide differences of value and qualities within the four main categories.

Iraq Oil Expansion

ENCOURAGING reports are being received from Iraq regarding the development of facilities for the expanded output of oil from the southern area of the country, where oil of good gravity is present in a new oilfield at Zanzibar, near Basra. A new pipeline is being laid, 75 miles long, from Zubair to Fao, on the Persian Gulf, where two jetties for loading ocean-going tankers are being planned. It is hoped that the first cargoes will be shipped early next year. The capacity of the 12-in. pipe allows for production at the rate of 2,000,000 tons a year. Meanwhile, the Petroleum Press Service reports that the laying of the 560-miles pipeline from Kirkuk to Banias on the Syrian coast is proceeding according to plan and the line will be opened in 1953, when Iraq will be shipping oil to the Mediterranean at the rate of 18,000,000 tons a year. It is believed that 42 ships have been chartered for transporting pipe from the Pacific coast of the United States to Tripoli, as well as to Basra.

Change in Tanker Market

THE latest tanker market report by John I. Jacobs & Co., Ltd., states that the market has become much quieter, an entire change of policy on charterers' part having switched the emphasis from consecutive voyages to one or two trips. They are now looking for some reduction in rates on this basis, but are likely to meet resistance from owners in view of the limited tonnage availability over the next few months. Black oil vessels giving March/April/May loading can be placed for one voyage from Caribbean Sea or Persian Gulf to U.K./Continent at M.O.T. plus 260 per cent for March, and slightly less for later positions. American operators are also chartering Persian Gulf/U.K. Continent, etc., and Sidon/U.S.N.H., in each case at U.S.M.C. plus 170 per cent, equal to M.O.T. plus 288 per cent. There are few orders for account of Continental charterers, but higher rates are usually paid to fill their openings, recent examples being Caribbean Sea to Lisbon at M.O.T. plus 285 per cent and to Nynasham at M.O.T. plus 280 per cent. In the white oil section, an early 15,000-tonner has secured the new peak rate on sterling basis of M.O.T. plus 320 per cent for a voyage Caribbean Sea/U.K. Continent, but there is

not a wide range of business available for this class of tonnage. Several further vessels were closed at M.O.T. plus 135 per cent for about 12 months consecutive voyages, and others were on offer on the same terms when charterers decided to cease operations. The principals who were open for 3 years on a market rate basis with a fixed minimum also withdrew at about the same time, leaving few opportunities of voyage cover over a period.

Shorter Notes

Owing to the coal shortage the British Railways passenger service between Belfast and Heysham will operate on only three days per week. The cargo services will be continued without interruption and the full passenger sailings will be resumed for Easter.

The price of coal bunkers at Tunis and Sfax has been increased to 186s. 6d. per ton, f.o.b. and trimmed; quantities under 50 tons are chargeable at 5s. per ton extra.

According to Cory Brothers & Co., Ltd., the price for South African coal bunkers at Aden is increased to 137s. 6d. per ton, f.o.b., less the usual rebate of 2s. 6d. per ton (where applicable); at Algiers/Oran/Bona it will be increased to 171s. 6d. per ton trimmed.

Mitchell Cotts & Co., Ltd., announce that the price of South African bunker coal at Mombasa has been increased to 117s. 3d. per ton, f.o.b. and trimmed, and at Zanzibar to 118s. 3d. per ton. These prices are subject to a rebate of 1s. per ton to owners who have signed a bunker agreement. The price of bunker coal at Port Sudan has been increased to 134s. 6d. per ton f.o.b. and trimmed for South African coal, less a rebate of 1s. 6d.

Figures issued by the River Wear Commissioners show that during 1950, 3,031,673 tons of coal and coke were shipped from the Wear, including 727,300 tons to foreign ports. The figures for 1949 were 2,945,219 tons, including 705,120 tons to foreign ports. The pre-war figures were 4,449,720 tons, including 2,144,202 tons sent to foreign ports.

In the first four weeks of 1951, U.K. coal exports to foreign countries, including the Channel Islands and bunker depots abroad, totalled 376,000 tons, as against 1,280,000 tons in the corresponding period of last year. In addition, 275,000 tons was shipped as foreign bunkers (including travellers), compared with 337,000 tons in the 1950 period. Imports of coal for the five weeks to February 3 were 243,900 tons.

RECENT PUBLICATIONS

The current issue of *Steel News* has an article discussing the various kinds of alloy steels, of which there are over 1,000.

The supersonic flaw detector, used for the detection of hair line cracks and other flaws in metals, is described in *Fathom*, the house magazine of Kelvin & Hughes, Ltd.

The 1951 edition of the official handbook to the Port of Bristol has been published. Well illustrated, it gives full details of the port and its facilities and charges.

The Port of Helsingborg has published an illustrated booklet giving full details of port facilities. It is stated that work on an extension of the harbour to the south, and the construction of a dock for ocean tankers, is expected to start within a year or two.

Details of the British Railways fleet are given in the latest issue of its register of ships and services. The British Railways cross-channel fleet numbers 73 vessels, totalling 153,705 tons gross. Coastal water and lake craft number 62, totalling 23,519 tons gross.

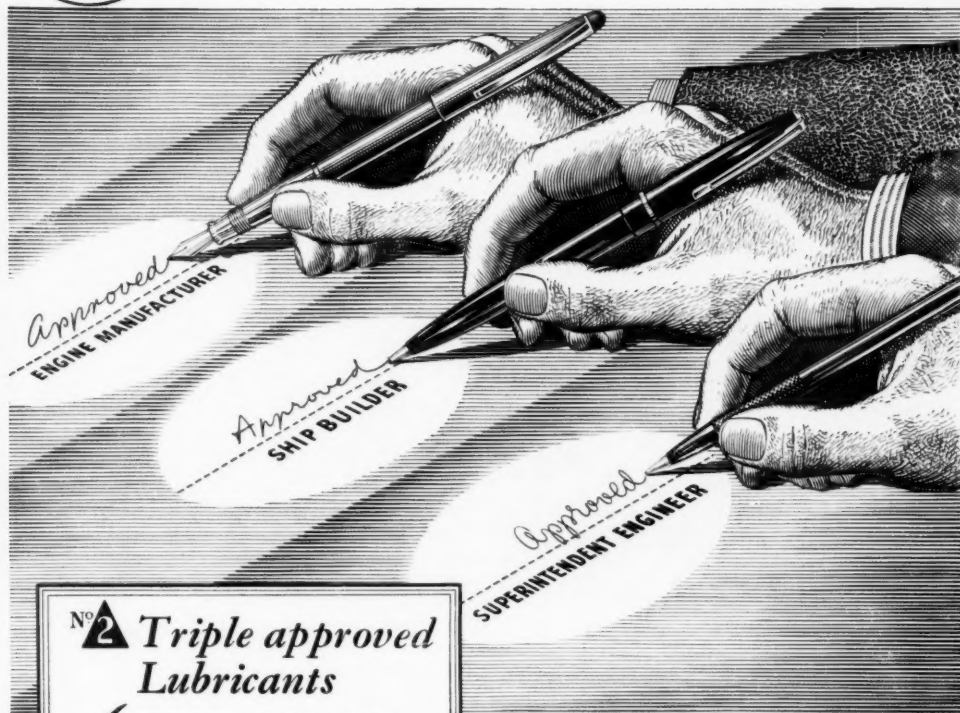
The enlarged New Year issue of the German paper *Hansa* contains a comprehensive account of German shipbuilding activities during 1950, and a number of interesting ship descriptions, in addition to special sections dealing with harbour works and fishing.

Two new leaflets produced by Remington Rand, Ltd., describe the Kardex method of visual control in the factory and office, adaptable to many problems, and a new method whereby ledger posting can be speeded up and overdue accounts revealed automatically.

A new British standard for ship's compasses and binnacles (B.S. 1699: 1950) incorporates the recent recommendations of the working party on aids to marine navigation, and is in fact identical with the specification given in the appendix to the Ministry of Transport Notice No. M.345.



star points of Caltex Service



N^o 2 Triple approved Lubricants

- ✓ BY ENGINE MANUFACTURER
- ✓ BY SHIP BUILDER
- ✓ BY SUPERINTENDENT ENGINEER

A FULL range of Caltex approved lubricants to suit every purpose has been developed in close collaboration with Marine Engine Manufacturers, Ship-

builders and Superintendent Engineers. Qualified Marine Engineers and Petroleum Technologists are available at world ports to consult with ship operating personnel.

CALTEX

Marine Lubricants

distributed in the United Kingdom by

REGENT OIL COMPANY LTD.

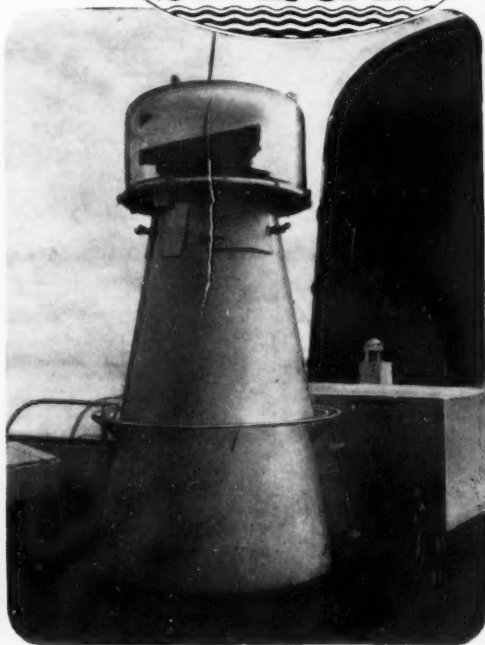
117 PARK STREET, LONDON, W.1



The "Port Auckland" uses



The photograph above shows the display console, fitted in the chart-room of the M.S. "Port Auckland."



The aerial and pedestal of the Seascan equipment installed on board.

Radar Equipment

Seascan is fitted to more
than a million tons of
shipping, including
the flagships of many
important lines



METROPOLITAN-VICKERS ELECTRICAL CO. LTD.

TRAFFORD PARK, MANCHESTER 17

Member of the A.E.I. group of companies

Hire and maintenance services if required, by :

SIEMENS BROTHERS & CO., LTD., LONDON, S.E.18

NORWEGIAN SHIPPING AND SHIPBUILDING

EXPANSION OF THE MERCHANT FLEET

By THE SHIPPING WORLD'S Own Correspondent

AT THE beginning of February the Norwegian budget for 1951 was introduced. It envisages imports to the value of some Kr.4,300 mn., or the same as in 1950. This does not, however, include imports under the North Atlantic Alliance. The value of exports in 1951 is expected to be Kr.3,110 mn., ships being excluded in both figures. Net freight incomes are estimated at Kr.1,300 mn., against Kr.1,100 mn. last year. Ship imports will cost some Kr.850 mn., but as some of this money has already been paid or will be paid as instalments on loans in the future, the actual outlay of foreign currency will only be about Kr.550 mn. This sum, however, does not include the outlay for new contracts that may be negotiated in 1951. Quite a number of licences for building abroad have already been granted, but they have all been given on the understanding that the owner provides all the foreign currency required, so they should have no influence on the 1951 budget. Taking into account all income and outgoings of foreign currency, as well as money needed for the servicing of loans, the deficit in the country's foreign payments is expected to be Kr.830 mn. Some Kr.600 mn. of this sum the authorities hope to obtain through Marshall Aid or the European Payments Union. With regard to shipping services it is remarked that the increase in income, from Kr.1,100 mn. in 1950 to Kr.1,300 mn. in 1951, is not as much as the rise in freight rates would warrant, but as so many Norwegian vessels are employed on a long time-charter basis, they are not able to avail themselves of the high freight rates. The sum of Kr.200 mn. represents a rise of 18 per cent, of which 11 per cent is accounted for by the increase in the size of the fleet, while only 7 per cent is due to the rise in freight rates.

Deliveries Expected in 1951

In order to man the nine ships some 3,000 more seamen are needed. At present some 37,000 men are employed in the whole Norwegian merchant fleet. It is expected that some 755,000 tons gross of new ships will be delivered in 1951. Great Britain will deliver some 368,000 tons, costing some Kr.457 mn., Sweden 225,000 tons costing Kr.263 mn., the Netherlands 45,000 tons costing Kr.57 mn., and Denmark 23,000 tons costing Kr.38 mn.—a total of 661,000 tons from foreign yards—while between 80,000 and 90,000 tons will be delivered from Norwegian yards.

The average age of the fleet has decreased steadily since 1945. On January 1, 1946, the average age was 15.5 years, compared with 12.5 years before the war. Two years later the average age had diminished to 13 years and at the beginning of 1951 was only 11.5 years. Nine-tenths of the tonnage delivered in 1950 consisted of tankers, which at the end of the year constituted almost 50 per cent of the whole fleet; and of all the new ships now building for or ordered by Norwegian owners, four-fifths are tankers.

At the end of January the Norwegian Crown Princess christened the largest ship yet to be built in Norway, the motor tanker *Berge Bergesen*, launched by Rosenberg mek. Verksted, Stavanger, and built to the order of Sig. Bergesen d.y., Stavanger and Oslo. The vessel, which is the first of five sister ships to be constructed by the yard, is being built to the highest class of the Norwegian Veritas and has the following dimensions: length overall 522 ft. 6 in., length b.p. 495 ft., breadth moulded 67 ft. 9 in., depth moulded 36 ft. 5½ in., and draught to summer freeboard 28 ft. 4 in., with a deadweight tonnage on this draught of 16,200 tons. The main engine will be a Doxford diesel of 5,500 h.p. with 5 cylinders of 670 mm. diameter and 2,320 mm. stroke, to give a speed of 18.75 knots.

Welding is used to the greatest extent and the hull has, where possible, been built in prefabricated sections, of which some have weighed up to 28 tons. The keel of the vessel was laid in January, 1950, and the vessel will be delivered in May or June this year. Kaldnes mek. Verksted has launched the first of two cargo liners of some 8,000 tons d.w. for Wilh. Wilhelmsen. The vessel was christened *Thalatta* and is scheduled to run in the owners' regular service to Mexico and U.S. Gulf ports. Her speed will be 16.5 knots fully loaded.

According to Norwegian Veritas, the Norwegian merchant fleet (all ships over 100 tons gross, including the whaling fleet) consisted of 2,168 vessels, totalling just over 5,500,000 tons gross at the end of 1950. Twenty-seven ships of 39,500 tons were lost during the year, while 78 of 197,500 tons were sold to foreign owners. No fewer than 22 ships, totalling 755,000 tons, were sold to Germany, while two, of 4,100 tons, were scrapped. Norwegian owners took delivery of 150 new ships, totalling 628,000 tons gross, of which 55 were from Norwegian shipyards. Of the 80 ships of 555,600 tons delivered by foreign yards, there were 41 motor tankers and one steam tanker totalling 426,000 tons.

Scandinavian Airline System

One of the first major questions the Storting had to deal with after the Christmas recess was whether Norway should join the new Scandinavian Airline System. The old SAS was based on an agreement as to the share that each of the three Scandinavian national air lines should have in the maintenance of overseas routes, while the new SAS, to all intents and purposes, becomes one company, with Denmark and Norway contributing each two-sevenths of the capital equipment and Sweden three-sevenths. After debating the question for a day, the Storting decided that Norway should join the new SAS. This means that DNL, the Norwegian Air Line, will have to contribute some Kr.25 mn. to the amalgamation, and some Kr.15 mn. of this will be provided by the Norwegian Government. The final agreement legalising the amalgamation was signed at a general meeting of the companies in Oslo on February 9. Each company at the same time appointed six of its directors to sit on the board of the new SAS, whose headquarters will be the ABA building at Bromma, near Stockholm.

At the end of January the Norwegian authorities granted several licences for building ships abroad. As many as seven were granted to owners who wanted to build in British yards, and four of the vessels are cargo liners, while three are tankers. A licence for building two cargo liners has been given for building either in Great Britain, the Netherlands or Germany, and several licences have been granted for building in Sweden, but these are subject to certain conditions that were not fulfilled at the beginning of February.

THE BREMEN shipowners Deutsche Dampfschiffahrtsgesellschaft Hansa have been readmitted to the Outward Continent / Karachi and Bombay Conference.

A THIRD diesel tug has been acquired by France, Fenwick & Wear Co., Ltd. Formerly a U.S. vessel, the tug has been operating in Belgian waters. She has been named *Cornhill*.

DURING 1950 the Swedish Lloyd Line carried a record total of 59,514 passengers on the Sweden-U.K. route. This is more than twice the number carried in the prewar peak year of 1938, when 28,515 passengers were carried.

PARTS of a diesel engine weighing over a ton have been sent by air to Australia for the Norwegian tanker *Staland* by the Wallsend Slipway & Engineering Co., Ltd. This was the biggest consignment of ship's parts sent by air by the Wallsend firm.

American Bureau of Shipping

U.S.A. Shipping and Shipbuilding

AT THE 89th annual meeting of the American Bureau of Shipping, Mr. J. Lewis Luckenbach was re-elected chairman and Mr. Walter L. Green was re-elected president.

Mr. Luckenbach reported that there are now 8,528 vessels of 36,267,186 tons gross in class with the American Bureau of Shipping, of which about 20 per cent are temporarily inactive. The Bureau's business in foreign ports during 1950 showed a continuing steady increase. Since January 1950 exclusive surveyors have been stationed at Istanbul, Newcastle-on-Tyne, Piraeus, Naples, Halifax, and Vancouver. For the past several months a member of the New York technical staff has been assigned to the London office, covering the United Kingdom and Continent. A total of 33 new vessels were completed to class in foreign shipyards during 1950, aggregating 159,037 tons gross. The majority of these vessels were built in Japan.

Several changes to the 1950 Rules have been approved for inclusion in the 1951 edition, which will soon be available for distribution. These changes include some minor alterations in the Rules for hull construction, one being in the method for determining the scantlings for the structure bounding deep tanks. Several changes in the requirements for steering gears and for the construction of machinery have been made and the sections on welding, boilers and piping have been brought into agreement with the latest provisions of related Codes and Practices. A number of changes have been incorporated in the electrical section.

A total of 90 new vessels are being built in foreign ports to American Bureau classification, of which 15 are in U.K. shipyards, two in Germany, one in Canada, two in Mexico, six in Trieste, 11 in Italy, nine in Spain, two in Holland, four in Pakistan and 38 in Japan. All the large vessels being built in the United States are to be classed by the Bureau. These include 15 seagoing vessels of 240,452 tons gross and 14 vessels of 153,370 tons gross for Great Lakes service. The year's production by American shipyards totalled 404,617 tons gross and 652,083 tons d.w., equipped with propelling machinery of 325,700 horsepower. This is about 25 per cent less tonnage than was finished in 1949, and includes 23 oil tankers and two bulk ore carriers.

Privately-Owned U.S. Tonnage

The privately-owned American flag merchant fleet of seagoing vessels over 2,000 tons gross on January 1 totalled 1,147 units of 9,341,379 tons gross and 14,000,000 tons d.w. A number of Government-owned passenger and cargo vessels are also being operated under charter by private shipowners. In addition, there are 411 merchant vessels sailing the Great Lakes under the American flag, totalling 2,296,856 tons gross and 3,228,147 tons carrying capacity. The privately-owned cargo fleet of 677 units and 4,789,289 tons gross will be greatly augmented by purchases from the reserve fleet during the first two weeks of January. The sale of 121 cargo ships will add more than 922,000 tons gross and 1,300,000 tons d.w. to the privately-owned fleet, establishing it at a peak, as to carrying capacity, never before reached. The privately-owned passenger fleet of 44 units (394,365 tons gross), not all of which are actively employed, will shortly have added to it the *Independence* and *Constitution*. The privately-owned tanker fleet of 326 units now totals 4,137,725 tons gross and 6,618,695 tons d.w. There will be added early this year two more tankers of 30,155 tons each, these being at present the largest of their type in the world and the first merchant vessels to use in their propulsion plant steam at a temperature of 1,020 deg. F. The first of these three sister ships, the *Atlantic Seaman*, built for Philadelphia Tankers, Inc., by the New York Shipbuilding Corporation, went into service late in 1950 and preliminary reports indicate very successful operation.

Two New P. & O. Liners Ordered

In view of the success which the *Himalaya* has displayed in the 18 months in which she has been in service, the Peninsular & Oriental Steam Navigation Co., Ltd., has decided to order two similar passenger liners. One will be built by John Brown & Co., Ltd., Clydebank, and the other by Harland & Wolff, Ltd., Belfast. Although full details of the new vessels are not yet available, it is anticipated that they will be similar to the *Himalaya* in appearance, dimensions and tonnage (28,000 tons gross), but may have certain modifications in passenger and cargo accommodation. In view of the success of the Denny-Brown stabilisers fitted in the *Himalaya*, it is probable that the new ships will be similarly equipped. The new liners, when completed, will join the *Himalaya* in the P. & O. Australian service.

BURDEN OF TAXATION

Glasgow and Clyde Shipowners' Association

AT THE annual general meeting of the Glasgow & Clyde Shipowners' Association Mr. I. Hervey Stuart Black, a director of Donaldson Brothers & Black, Ltd., and associated companies, was elected president for the ensuing year. Sir Joseph MacLay was appointed vice-president and Mr. W. F. Robertson deputy vice-president. The retiring president, Mr. W. T. Sloan, referring to taxation, said that directors of shipping companies with lifelong experience of this highly competitive industry were not entrusted to lay aside from hard-earned profits sufficient reserves without the Exchequer exacting its tax on undistributed profits. That money, instead of being available towards new tonnage, involving the provision of work for the shipyards, would, on reaching Whitehall, be available for any of the loss-making projects of which there was frequent news in the Press. The incidence of balancing charges weighed particularly heavily when the value of money was falling and tonnage replacement was so costly. He thought that the high level of taxation was in itself most discouraging, but coupled with the realisation that the growing fleets of other nations were far less severely dealt with, there was surely a case worthy of long-term thinking which should lead the Exchequer to grant some alleviation of the onerous burden, which was having such a crippling effect on the industry.

Mr. Sloan said that the dock labour scheme was unfortunately superimposed on a system containing many safeguards for the casual worker which, for the man with a guaranteed wage, should no longer be applicable. As the vast majority of dock workers had behind them years of casual employment, they unfortunately visualised that wholehearted endeavour would lead to unemployment. In fact, their lack of effort was more likely to lead in that direction, through heightening costs resulting in the loss of markets. It was no secret that the wasted time in port was one of the most serious factors curtailing the earning capacity of ships. It would not be overstating the case to say that the result of full cooperation from the dockers would be equivalent to increasing the size of our mercantile fleet.

Middlesbrough Chartered Shipbrokers

The additional facilities provided by the new oil berth on the Tees were welcomed by the Middlesbrough & District Association of Chartered Shipbrokers, at the annual meeting, by the retiring president, Mr. Miles Brand. But, he added, they were perturbed at the delay in proceeding with the major scheme of the Tees Conservancy Commissioners for the provision of deep-water berths. In the discussion which had taken place about the future control of the port with the Docks & Inland Waterways Executive, the shipbrokers had played their part and aired their views and he hoped that the immense possibilities and the value to the nation of the Tees developments would be realised. Referring to Middlesbrough, Mr. Brand said that improved facilities, including better road access, which had been denied to shippers for years, were now available and would do much to improve exports from the Tees. A disquieting feature regarding iron ore imports was that at a time when supplies of scrap were drying up and there was a correspondingly increased demand for ore, ships built for the trade were being diverted to carry coal from the United States.

Mr. Thomas W. Clarkson, of Clarkson Bros. & Casper, Ltd., was installed as the new president, with Mr. T. Warley Donking, of T. H. Donking & Sons, Ltd., as vice-president. For the 23rd year in succession, Mr. Joseph Bolton was re-elected secretary and treasurer and tributes were paid to his valuable services.

The Port of Brisbane

The report of the Queensland Department of Harbours and Marine for the year ended June 30, 1950, states that Brisbane during the last few years has assumed the role of a major port. Being a first port of call, and possibly a last port of call, it needs the concomitant features of greater depths in channels and wharves. With this view, dredging plant will be augmented as rapidly as possible. The gross quantity dredged from the port was 1,671,235 barge yards during the year. New wharves are being planned. A total of 776 foreign-going and coastal vessels, totalling 2,856,374 tons net, arrived during the year, compared with 616 vessels of 2,193,278 tons in the previous year.

AIR TRANSPORT AND PACKAGING

NEW FACTORS IN THE ECONOMIC USE OF AIR TRANSPORT

By F. J. STUDD, of the Scandinavian Airlines System *

ALTHOUGH the prime interest of the air transport industry has been its passenger traffic, a great deal of attention has been, and still is being given, to the development of a first-class cargo service, and the increase in traffic volume has become an outstanding feature in airline history. This has been brought about by improved aircraft design, new cargo handling methods, expeditious loading and unloading and simplified documentation and customs procedure for air cargo, as compared with surface transport. I may perhaps best illustrate the improvement in aircraft design by citing the Douglas DC-4 or Skymaster and the DC-6 Cloudmaster, which form a large part of the SAS fleet. These two aircraft, which are normally fitted to carry 44 and 48 passengers respectively, can both carry up to 2 tons (or 2,000 kilos) of cargo. The figures vary with the number of passengers and mail.

Naturally there is a limit to the size of packages which can normally be carried on a passenger aircraft, but the following four examples of packages can be accommodated on our DC-6 aircraft, in the normal course of events:—

9 ft. 11 in.	1 ft. 10 in.	1 ft.
6 ft. 3 in.	3 ft. 1 in.	8 in.
5 ft. 1 in.	3 ft. 7 in.	1 ft. 8 in.
5 ft. 10 in.	2 ft. 0 in.	2 ft.

These figures are, generally speaking, representative of most four-engined aircraft which are being operated at this time. Much larger packages can be accommodated on the less frequent, but nevertheless regular, freighter services which are being operated by the leading airlines.

By reason of the tremendous increase in the volume of cargo which is being transported, it has been possible for the leading airline companies to introduce a van collection service in the main cities, and consignments are delivered to a central receiving depot for documentation and forwarding to the airports. Furthermore, goods from the provinces may be consigned "to be called for" at any one of the main railway termini, so that instead of awaiting delivery by the railway authorities, they can be automatically collected by a special van which visits each main line station at least twice daily. A regular van service is operated from the central receiving depot to each of the airports at intervals of 2 or 3 hours throughout the day, and by this means our customer can be sure that his goods will be made available for shipment in the shortest possible time. Loading and unloading facilities are improving daily and the introduction of the fork-lift truck has made it possible for us to load and unload heavy packages, to and from holds which are high above the ground, with infinite ease.

Simplified Documentation

With regard to documentation, the International Air Transport Association has introduced a standard type of air consignment note which is now universally accepted by all member carriers and, after having once completed this form, a shipper has no difficulty in sending his goods anywhere, irrespective of the airline involved. Furthermore, simplified customs procedures for air cargo have been introduced in many parts of the world and we have every reason to hope for further concessions when the international economic situation improves.

The most obvious advantage of air freight is naturally the speed at which products can be delivered. Next in importance is careful and expeditious handling, especially in regard to perishable, valuable and fragile goods. Now we come to the many less obvious advantages.

For example, the economies of using air freight, which tend to offset its relatively high rates, are quicker turnover, wider sales distribution, elimination of warehousing for spares and replacements, reduction in spoilage and other similar factors which vary according to the nature of the goods in question.

A particularly good example of elimination of warehousing for spares and replacements can be found in the motor-car trade. I am given to understand that under the old system, large dumps for spares had to be maintained in various parts of the world, so that when a distributor needed an urgent spare, he could apply to his nearest dump for the part in question. Apart from the cost of maintaining those large dumps, it was general practice for car manufacturers to withdraw all spares for a certain model after a specified period of time, and when this happened, the stocks in question became nothing more or less than scrap metal. Nowadays, due to the worldwide air cargo system, the stocks can be kept to an absolute minimum and when a distributor asks for an urgent replacement it is dispatched to him by air freight. In addition, pilferage, breakage and deterioration have been virtually eliminated in air freight shipments, with the result that insurance premiums are the lowest offered for any means of transportation.

Special Packaging Technique

Because air freight is a new business, the packaging problems connected with it should receive the immediate consideration of container manufacturers in conjunction with the export and import freight. Most of the progress which has occurred in the packaging of shipments for air transportation can be traced back to the time during and after World War II when packaging manufacturers, airlines and military authorities pooled their knowledge of the intricacies of preparing goods for air shipment. Unfortunately, however, the development of special techniques for products to be transported by air has not kept pace with the growth of the air freight service and, as a representative of the IATA said, "there is a fortune awaiting the man who could do something intelligent about packing materials and containers for the transport of commodities by air."

There is no justification whatsoever for a shipper believing that any sort of a container can be used when shipping by air. Lower packaging costs and lower gross weight are two of the many factors which make air freight match the cost of surface transport, and this emphasises the need for lightweight containers. There are many examples of "over-packing" of air shipments. For example, SAS had for some time transported typewriters to the Near East and we particularly noticed the heavy packaging, which consisted of wooden boxes. By putting the exporter in touch with a container manufacturer, a new form of packaging was prepared by using special cardboard boxes, and the tare weight was thus reduced from 12.5 to 3.5 kilograms. The exporter was able to effect a saving of approximately £4 in freight charges on each typewriter.

The Ideal Container

The ideal container for air freight is one that is lightweight, inexpensive and shock-absorbent; affords maximum protection against pilferage; provides easy efficient sealing; and requires little storage space. The development of packaging which possesses one or more of these attributes is particularly advantageous to air freight. Naturally, each commodity has its own particular container problems. For instance, radio and

* Extracts from a paper read at the Second National Packaging Exhibition at Olympia, February 2, 1951.

Monthly Air Transport Section

radar tubes, delicate spare parts and instruments, really require special internal suspension and extra careful packing so as to minimise or eliminate shock. Some products must be kept ventilated, whereas others have to be kept at an even temperature.

Here are one or two examples of improvements which have been made. A combined fibreboard and plicofilm air shipping container used extensively in the shipment of fish has reduced the weight from 3 lb. of packaging to every pound of fish (as required for surface transport) to 1 lb. of packaging to every 10 lb. of fish. While on the subject of seafood, I should like to tell you how the air shipping of lobsters over long distances was made possible after considerable research. Lobsters had hitherto been carried by air over shorter distances without ice, because the speed of movement precluded deterioration and shrinkage. However, the increased air distances meant that icing was essential, for the lobster must be kept moist, he must be chilled to about 50 degrees and he must have oxygen. However, at high altitudes lobsters burst. It was found also that the lobster drinks the fresh water melting from ice and fresh water is fatal for him. Yet another problem was that the leakage of melted ice caused considerable damage to the interior of an aircraft. Then the airlines, working in conjunction with a lobster firm and various container manufacturers, were able to produce an eleven-piece container with two insulating sleeves and waterproof waxed trays. In no time at all, the lobster ceased to be a problem! He was sealed off from fresh water, his container did not leak and pressurised cabins kept him from bursting.

Manufacturers of wire bound boxes have developed a special lightweight container for air freight in order to provide a wire bound unit for commodities which cannot be adequately flown in less stable containers. This container gives greater flexibility and easier handling, at the same time keeping the tare weight of a shipment to an absolute minimum. Also, transparent packages and combinations of plastic films and paper or cardboard have been adopted successfully in shipping prepacked producer to consumer goods.

Surface Transport of Air Shipments

One of our most difficult objectives has been to change the deeply ingrained habits of shippers to pack all air shipments in the same way as they would for surface transportation and I sincerely ask all of you to think carefully before deciding whether or not your goods can be shipped economically by air. Some of you may answer "How can I use lighter packing for my goods when they have to travel 200 miles by road or rail before reaching the airport?" As far as I know, there is no exporter who has thought of bulking his air packed goods in heavy cases or crates for carriage from his factory to the airport, having the case unpacked by our staff and then returned empty to the factory for further use. If the volume of your air traffic is not sufficient to make this method possible why not consult your local shipping and forwarding agent to see if he can help you? I consider this to be one of many possibilities for shippers to cut down both packing and transportation charges and still provide their overseas customer with a 100 per cent express service.

Although interest among container manufacturers is increasing, research in this field has only just begun and therefore it remains for the airlines themselves to take the lead in working with exporters, importers and container manufacturers to develop improved packaging methods. SAS has today taken the opportunity to make a start. It is obvious that all of us will benefit by closer cooperation.

A RECORD number of passengers and cargoes was carried during 1950 by Trans-Canada Air Lines. About 820,000 passengers were flown during the year, an increase of 19 per cent. Freight rose by 33 per cent, the combined air cargo and air express ton mileage totalling 4,800,000, while mail carried increased by 5 per cent to over 4,000,000 ton miles.

NEW DECCA NAVIGATING INSTRUMENT

AN aerial navigating machine which automatically shows a pilot the position of his aircraft on a map is to go into quantity production. The Flight Log, as the instrument is called, is a version of the Decca Navigator and consists of a map fitted in a case about the size of a large cigarette box. A pointer records the track of the aircraft on the map, and on a medium distance three maps could be used, one of the airfield of departure, one of the route and one of the arrival point. The change from one map to another normally takes less than three-quarters of a minute. Electrical impulses mark off regular time intervals on the map so that the pilot of an aircraft can make a quick check of his speed over the ground and his estimated time of arrival at destination. The map unit can be fitted to the dashboard or anywhere else in the aircraft. The visible section of the map, which is of the strip type, is only about 10 in. by 4 in. in size. Light in weight, the entire airborne set, including receivers and power unit, weighs less than 125 lb. and takes up 3 cu. ft. of space. The equipment is not complicated and the small map unit is a light addition to the standard Decca Navigator unit. Accuracy depends on the air accuracy of the basic Decca coverage of the area over which an aircraft is flying, but tests already carried out show that aircraft can be flown to within 250 yards of the end of a runway when conditions are good.

First Comet for B.O.A.C. Completed

THE first of 14 Comet airliners on order for B.O.A.C. has completed a successful maiden flight. This is the third de Havilland Comet to be built, the first two being for the Ministry of Supply. The B.O.A.C. aircraft is similar to the first two except that it is fitted with a four-wheel bogie undercarriage in place of the single-wheel type. The second of the two Comets built for the Ministry of Supply has been lent to the corporation and is to carry out proving flights on main routes. It is hoped that a sufficient number of Comets will be delivered to enable B.O.A.C. to introduce the jet airliner on regular service by the end of this year.

New B.O.A.C. New York-London Air Service

A NEW air service between New York and London is to be inaugurated by B.O.A.C. on March 1. Known as the "Monarch" service, it will form part of the corporation's 1951 drive to obtain a major share of the important American dollar traffic on the highly competitive trans-Atlantic route. Operating the service will be pressurised, double-decked 60-ton Strato-cruiser airliners, which will fly non-stop from New York to London in 11½ hours. Many luxury additions will be included in the normal trans-Atlantic fare to attract passengers. During the Festival of Britain the services will be stepped up, three weekly flights to operate from March 1, five from April 1 and daily flights from May 1.

Packaging for Exports by Air

MUCH attention is being given today to the problems of packaging of goods for both sea and air transport. With Britain's extensive export programme it is realised that the safe delivery of manufactures in good and sound condition is an essential part in selling the country's exports. One of the companies always on the alert as to new methods of packaging is Export Packing Service, Ltd., which produces all types of protective designs, some of which were displayed at the recent Packaging Exhibition held at Olympia, London. The company has three plants, all of which are approved packing centres for the Admiralty, Ministry of Supply and the Aeronautical Inspection Department. Specialising in aircraft and radio packing, the company is fully aware of the constant demand for new methods with the steady increase in cargoes carried by air, and has a drawing office staff fully conversant with packaging design. This eliminates the old "hit and miss" methods of leaving designs to shop experiments. Export Packing Service, Ltd., 6 Broad Street Place, London, E.C.2, has a wide range of services and is able to cater for the entire output of a factory, from split pin to complete assemblies.

TRAFFIC figures issued by the Scandinavian Airlines System show that there has been a notable increase in both passengers and freight carried in 1950, as well as air miles flown. Passengers on regular routes totalled 445,000 (385,000 in 1949), while mail carried increased by 500 tons to 2,087 tons and freight by 2,500 tons to 6,169 tons. Combined with an extensive charter service, the number of passengers carried by SAS during the year was nearly 500,000.

For **ECONOMY**

SPEED

SERVICE

fly with **CREWSAIR LIMITED**

11 Bruton Street, London, W.1

For freight and passenger enquiries apply :—

Managing Agents

Messrs. Lep Air Services Ltd., Sunlight Wharf,
Upper Thames Street, E.C.4. Tel. CEN. 5050



Send your
freight to
SOUTH AMERICA
the **FASTEST** way

**AEROLINEAS
ARGENTINAS**
(ARGENTINE AIRLINES)

For Rates and Schedules to South America

please apply to your Freight Agent—there's no booking fee—or direct to

AEROLINEAS ARGENTINAS

42 BROOK ST., LONDON, W.1. TEL. REG. 6941

➤ Often Cheaper • Always Faster

FLY YOUR

➤ Less Handling • Lower Insurance

FREIGHT

➤ Lighter Packing • Increased Markets

BY B.O.A.C

For complete information write to your local B.O.A.C. Forwarding Agent or B.O.A.C. Freight Enquiries Section, Airways Terminal, Buckingham Palace Road, London, S.W.1. Telephone: VICTORIA 2323. Ask for your free copy of "B.O.A.C. AIR FREIGHT".

GREAT BRITAIN • U.S.A. • BERMUDA
CANADA • WEST INDIES
CENTRAL & SOUTH AMERICA • MIDDLE EAST
WEST AFRICA • EAST AFRICA
SOUTH AFRICA • PAKISTAN • INDIA
CEYLON • AUSTRALIA • NEW ZEALAND
FAR EAST • JAPAN

BRITISH OVERSEAS AIRWAYS CORPORATION IN ASSOCIATION WITH QANTAS EMPIRE AIRWAYS LIMITED, SOUTH AFRICAN AIRWAYS AND TASMAN EMPIRE AIRWAYS LIMITED

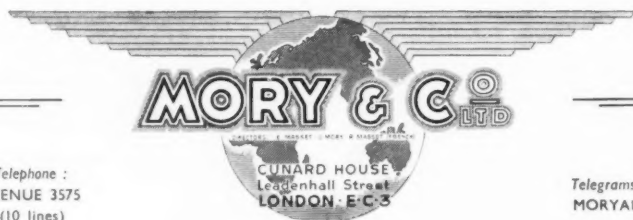
TYNE PLYWOOD WORKS LIMITED

**WILLINGTON QUAY
WALLSEND,
NORTHUMBERLAND**

MANUFACTURERS OF PLYWOOD
of all Descriptions

Telegraphic Address
"OKOUME WALLSEND"

Telephones:
Wallsend 64044/6



Telephone :
AVENUE 3575
(10 lines)

Telegrams :
MORYAIR

Teleprinter : AVENUE 1433

AIRPORT OFFICES AT:

London Airport,
Heathrow,
Nr. Feltham, Middx.
Tel. : Hounslow 7711
(ext. 508)

Gatwick Airport,
Horley,
Surrey.
Tel. : Horley 1510
(ext. 39)

Dunsfold Airport,
Nr. Godalming,
Surrey.
Tel. : Cranley 510
(ext. 108)

Northolt Airport,
Ruislip.
Tel. : Waxlow 4311
(ext. 376)

**Blackbushe
Airport,**
Camberley, Surrey.
Tel. : Camberley
1600 (ext. 54)

**Bovingdon
Airport,**
Nr. Hemel
Hempstead, Herts.
Tel. : Bovingdon
2296

ALL TERMINAL SERVICES

(General Supervision, Customs Clearance, Loading, Unloading, Cartage and Storage, etc.)

Agency to Owners and Charterers

Monthly Air Transport Section

Air Freight Market

Sales of Secondhand Charter Aircraft

AIR CHARTER business has been slack and according to the *Air Charter Bulletin* issued by E. A. Gibson & Co., Ltd., it is thought that the usual seasonal depression has already set in. On the other hand, there has been much activity regarding the sale and purchase of secondhand aircraft. Certain operators, believed to be intending to start charter companies on the Continent, are in the market for the purchase of twin and four-engined aircraft, preferably convertible passenger/freighter types. A curious development is that American buyers have been taking secondhand British DC-3s, paying for them in dollars. American buyers, in fact, are interested in all types of U.S.-built aircraft operated by charter companies over here, even the smaller types such as Lockheed. Many of these aircraft were acquired by the charter companies from the R.A.F. just after the war.

It is difficult to assess current prices for aircraft such as Dakotas, because the number of hours flown, the general condition of the plane, state of the engines and length of the C/A, all have to be taken into account. However, it appears that a reasonable price for a secondhand Dakota which has been used for several years on charter operation is about £16,000. Dakota prices have varied considerably over the past few years, but £16,000 represents a fair average.

During the last week of January, three charter companies sold their DC-3s. The present state of the market, so far as DC-3s are concerned, is so slack that the shortage of this type of aircraft is not keenly felt. However, it seems almost certain that there will not be enough medium planes about to cope with the summer traffic which is always offering. Also charter companies which previously had agreements with BEA for the operation of scheduled lines, will not be able to undertake quite so much as before, because of the depletion of fleets. The position with regard to the licences granted to charter companies has not yet been made public, but it is most probable that there will be many fewer aircraft than last year operating on licensed routes.

Little inquiry has circulated; most of it has been for heavy machinery, and Halifax and York aircraft have been in bigger demand than anything else. Passenger inquiry has dropped to almost nil, apart from a few ships' crews for European flights, and certain tourist inquiries which are not considered to be firm. Inquiries are again circulating for the carriage of racing pigeons to France and Belgium during the summer, but it is unlikely whether any of the DC-3 operators will be interested in this work this year. Those DC-3s that are left on the market will almost certainly concentrate on the longer flights, and after Easter, if previous experience is anything to go by, they should have no difficulty in being able to fix them at rates slightly better than in previous years. Lack of inquiry has been so serious that the Baltic Exchange has on some occasions not been able to issue its Daily Market State of current business.

Fixtures and Inquiries

A York which had carried a load to Teheran has been fixed with a cargo of passengers' baggage from Teheran to Lydda. A contract for the carriage of NAAFI personnel from the U.K. to Malta, Benghazi, Cairo and Tripoli, has been switched to another operator, because the previous holders of the contract have sold their DC-3 aircraft.

Lambert Bros., Ltd., report that 29 seamen are being flown from Hong Kong to the U.K. in a Skymaster. A Convair was fixed to carry 30 seamen from Amsterdam to Prestwick, and another ship's crew fixture arranged was for a Viking to take 24 seamen from Calcutta to Aden, the aircraft returning to Calcutta with a similar number of sailors. A Dakota has been fixed to carry a dismantled helicopter from London to Durban, and a similar aircraft is taking a full load of livestock from London to Nairobi.

The current edition of the *Hunting Aviation Review* contains the story of Percival Aircraft, Ltd., as well as an interesting article outlining the possibilities of the use of helicopters in Canada.

The winter number of *Sabena Revue*, published by the Airlines, contains a large number of most attractive photographic illustrations, principally of various parts of Great Britain.

The December issue of *IATA Bulletin*, published by the International Air Transport Association, International Aviation Building Montreal 3 (price \$2), contains papers of the sixth annual general meeting and the text of a paper by Professor G. P. Baker entitled "Looking Ahead in International Air Transportation."

SHIPOWNERS AND AIR CHARTERING

Savings in Time and Money

THE USE which the shipping industry makes of air transport is the subject of comment in a review of air chartering in 1950 issued by the aviation department of Lambert Bros., Ltd. There can be little doubt that the great increase in the number of charters concluded for the movements of ships' personnel has been the result of the shipowners' ready appreciation of the saving in time and money that air transport can effect, and the close contact between charterer and broker which is a feature of the Baltic Exchange. The exchange of fresh crews for seamen whose articles have expired and the ferrying of personnel for newly delivered tonnage provide the main demand.

The majority of ships' crew traffic has been between this country and India and the Far East. The distances involved, as well as the number of seamen to be moved at one time, normally between 35 and 50, have meant that this traffic has been limited to the larger aircraft, and on many occasions the regular airlines have been able to offer competitive rates, with all the facilities provided that are normally at the disposal of their scheduled services. This type of business also enables the regular airlines to utilise aircraft which might otherwise have no employment. At the same time there has been no lack of short-haul ships' crew business, and in this sphere the charter companies are at an advantage, as the numbers to be moved are usually less and therefore ideal for such aircraft as Vikings and Dakotas. Scandinavian owners in particular have made great use of charter aircraft when moving personnel to take delivery of new tonnage in U.K. ports.

Ships' Machinery and Spare Parts

Although the cost of air charter may at first glance appear to be high, there are occasions when a shipowner may save himself thousands of pounds by virtue of the ability of an aircraft to deliver essential spares in a matter of hours, where surface transport might take weeks, thus cutting to a minimum the time that a ship is out of commission. Here again, the proximity of charterer and broker enables quick decisions to be made, and an aircraft to be dispatched within a few hours. During 1950 Lambert Bros. arranged such heavy lifts as a 7-tons tailshaft from Amsterdam to Mauritius, a 4½-tons rotor from a turbo-electric tanker from Abadan to Amsterdam for rewinding and redelivery to the Persian Gulf, and a 4½-tons rudder stock from Prestwick to Singapore. The comprehensive network of the regular airlines is complementary to this service, in that it enables small items to be delivered to any port of the world within a few days.

New Premises for International Travel Agency

Magnificent new premises in Dorland House, Regent Street, London, S.W.1, have been acquired by J. W. Kearsley & Co., Ltd., who also have offices in Johannesburg, Capetown, Durban and Dar-es-Salaam. The ample display windows feature 16-ft. models of the liners *Capetown Castle* and *Orion*. It is not generally known that this firm organised all movements, by sea and air, for the African groundnuts scheme, and took part in the Berlin air lift. It recently organised the transport of nearly 200 nurses recruited from Germany to relieve a shortage in Transvaal. Aircraft were chartered from Air Transport Charter (C.I.), Ltd., of Jersey, to carry nurses from Hamburg to Johannesburg in parties of 25. Arrangements were complicated owing to the shortage of inoculation serum in Germany, and serum had to be flown out from England. The inoculations had to take place immediately, and a German doctor was flown round Germany to carry out this work.

The firm is associated with Kearsley Airways, Ltd., which was formed in 1947 with three Dakotas and took part in Operation India and the Berlin air lift. The aircraft were disposed of after the General Election of 1950 and Kearsley Airways is now functioning at Stansted Airport as an engineering maintenance company.

Two more Convair airliners have been ordered by Sabena which will bring the total of that type of aircraft owned by the company to eight. Since being put into service on Sabena's European network in March, 1949, the twin-engined pressurised Convairs have flown more than 2,300,000 miles.

The new Swedish-built Saab-Scandia medium-sized passenger aircraft has been put into service with the Scandinavian Airlines System. SAS has taken delivery of three of these aircraft, which cover the Oslo-Gothenburg-Copenhagen run in 2 hr. 30 min.

ROUND THE SHIPYARDS

Work in Progress on the North East Coast

By THE SHIPPING WORLD'S Own Correspondent

NEW TANKER tonnage will be the main feature of North-East Coast building activities during the next two or three years, and already on the Tyne three tankers have left the stocks to give the river a good start to the 1951 launching output. Last year several contracts for ships of this type were received by Tyne yards, and the first order announced this year is for a 31,000-tons d.w. tanker to be built by Vickers-Armstrongs, Ltd., Walker-on-Tyne, for the North American Shipping & Trading Company, New York. This valuable order is a repeat of a contract received from the same owners last October, and the new vessel will be powered by steam turbine machinery built by the Parsons Marine Steam Turbine Co., Ltd. Further orders for new tankers are expected by Tyne and Wear yards from home owners. In the Tees area there is the same accent on tanker construction, and the Furness Shipbuilding Co., Ltd., Haverton Hill, has received an order to build a 32,000-tons d.w. tanker for American owners. This was the biggest tanker so far ordered in this country. The Tees yard has sufficient orders on the books to ensure full employment until the end of 1954.

Tanker Launches

This year four large tankers are scheduled to leave the stocks from Tyne yards and the first to enter the water was the 18,000-tons gross export ship *Majorian*, building by Vickers-Armstrongs, Ltd., Walker, for Norwegian owners. This is the builders' second big export tanker, the previous one being the 18,000-tons gross *Credo*, also for Norwegian owners, which was launched in September. The river's next big tanker launch will be the 18,200-tons gross *British Bulldog* in May from the Wallsend yard of Swan, Hunter & Wigham Richardson, Ltd.

The other two January Tyne launches were both tankers for the British Tanker Co., Ltd., both ships entering the water on the same day. At the yard of R. & W. Hawthorn, Leslie & Co., Ltd., Hebburn-on-Tyne, the 11,200-tons gross *British Seafarer* was launched. The builders have on the stocks the 19,000-tons gross *British Talent*, which is expected to be ready for launching in July or August. The year's first launch from the Walker yard of Swan, Hunter was the 8,700-tons gross *British Viscount*. The Tyne launching output for January amounts to 37,900 tons gross, but February will be a quiet month with only one vessel, a tanker

of 8,700 tons gross building by Swan, Hunter & Wigham Richardson, Ltd., scheduled to enter the water.

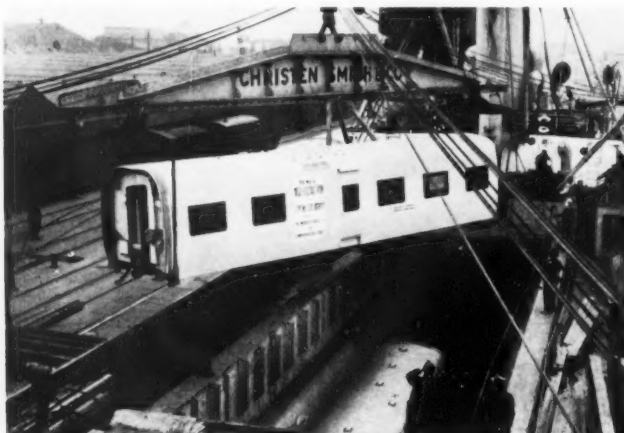
One ship was handed over on the Tyne during January, the 9,500-tons gross *Athel Line* tanker *Athelduchess*, built by R. & W. Hawthorn, Leslie & Co., Ltd. The delivery of the *Athelduchess* completes an order for four tankers, the other three having entered service last year.

There were two launches on the Wear during January, the first being the 8,100-tons gross cargo motor ship *Wayfarer*, second of an order for four similar vessels placed with William Doxford & Sons, Ltd., by T. & J. Harrison, Liverpool. The second launch was the 1,720-tons gross collier *Battersea*, building by S. P. Austin & Son, Ltd., for the British Electricity Authority. The *Battersea* is the first of an order for two. Both will be powered by Clark-Sulzer engines built by George Clark (1938) Ltd., Sunderland. An interesting launch in the Tees area during January was that of the 6,100-tons gross tanker *British Lady*. This is the first tanker ever built by Smith's Dock Co., Ltd., South Bank, for the British Tanker Company. At West Hartlepool the 5,700-tons gross cargo ship *Merchant Duke* left the stocks from the yard of William Gray & Co., Ltd.

New Contracts

Orders for new tonnage continue to reach the area. Apart from the two large tankers previously mentioned, contracts booked include a tanker of 18,250 tons d.w. from Mr. E. H. Samuelson, of Oslo, by the Furness Shipbuilding Co., Ltd., Haverton Hill-on-Tees. In the same area Smith's Dock Co., Ltd., South Bank, has contracted to build a tanker of 16,500 tons d.w. for H. E. Moss & Company's Tankers, Ltd., of Liverpool, while at West Hartlepool an order has been received by William Gray & Co., Ltd., for a bulk ore carrier of 8,800 tons d.w. for Cia. Sud Americana de Vapores. On the Wear a contract has been booked by Bartram & Sons, Ltd., from the Houlder Line, Ltd., for a general cargo ship of 10,950 tons d.w. and William Doxford & Sons, Ltd., has received an order from the Kassos Steam Navigation Co., Ltd., Syra, Greece, for two cargo ships, each of 10,000 tons d.w. On the Tyne the Anglo-Saxon Petroleum Co., Ltd., has placed an order with Swan, Hunter & Wigham Richardson, Ltd., for a tanker of 18,000 tons d.w., and an order for a cargo steamer of 9,600 tons d.w. has been received by John Readhead & Sons, Ltd., South Shields, from the Walmar Steamship Co., Ltd., London.

Details of the North-East Coast's share of the new tankers for the British Tanker Co., Ltd., will be found on page 188.



Heavy Cargo for Egypt

The cargo steamer *Belroy* recently sailed from Avonmouth Docks for Alexandria with a cargo of two 800 h.p. five-coach trains for the Egyptian State Railway. The trains, which are of the diesel-electric articulated type, have been supplied by the English Electric Co., Ltd., as part of an order totalling over £3,000,000. The last coaches are shown here being lowered into the ship's hold.

THE MOTOR TANKER "HOEGH ARROW"

LARGEST TANKER BUILT ON THE RIVER WEAR

THE LARGEST vessel ever to be built on the River Wear, the 22,764-ton d.w. motor tanker *Høegh Arrow* recently completed successful trials off the North East Coast and has now entered the service of Leif Høegh & Company, Oslo. Built at the Deptford Yard, Sunderland, of Sir James Laing & Sons, Ltd., the *Høegh Arrow* is the first of two similar tankers on order for these owners, her sister ship, the *Høegh Eagle*, being also under construction at this yard. It is interesting to recall that the previous largest vessel to be built on the River Wear was the 16,000-ton d.w. tanker *British Reliance*, which was also built by Laing's earlier last year. While the *Høegh Arrow* naturally attracts attention by virtue of her size, this attractively designed vessel features an unusually high standard of crew accommodation. As can be seen from the accompanying drawings and illustrations, the major proportion of the crew have their own single-berth cabins, the comfort and decoration of which can best be ascertained from the photographs.

Built to the latest Norwegian regulations, the *Høegh Arrow* is of modern, mainly welded design with engineroom aft and has the following principal characteristics:—

Length overall	604 ft.
Length b.p.	565 ft.
Breadth moulded	74 ft. 9 in.
Depth moulded	41 ft. 6 in.
Draught loaded	31 ft. 11½ in.
B.h.p.	6,800
Trial speed, loaded	14½ knots

The construction of the vessel incorporates corrugated bulkheads to the builders' bulkhead patent No. 633027. There are two longitudinal bulkheads, and transverse bulkheads divide the cargo space into 7 centre and 14 wing tanks. There are two pump rooms, these being arranged between Nos. 2 and 3 and between Nos. 5 and 6 cargo tanks. Each of the two pump rooms is fitted with two duplex cargo pumps 18 in. by 14 in. by 24 in., each of which has a delivery of 350 tons of water per hour, and a drain pump 6 in. by 6 in. by 6 in. with a delivery of 50 tons per hour. In addition to the two cargo pump rooms, there is a forward pump room with a

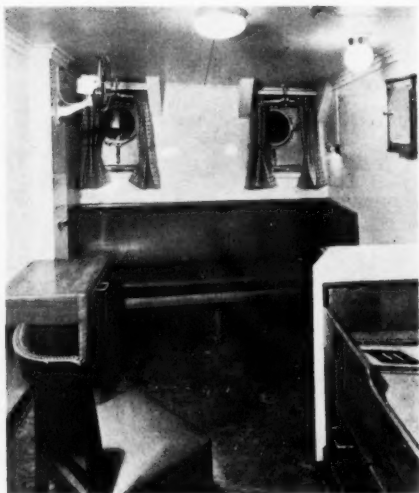
ballast pump of the horizontal duplex type, 8 in. by 8 in. by 8 in., with a delivery of 85 tons of water per hour, and a horizontal duplex transfer pump, 6 in. by 6 in. by 6 in., with a delivery of 50 tons per hour. All pumps were supplied by J. P. Hall & Sons, Ltd., Peterborough.

The forepeak is arranged for the carriage of feed water, as also are the engineroom double bottom and the after peak. The double bottom tanks below the machinery space are also arranged for oil fuel in addition to that carried in the cross bunker. As shown in the accompanying drawing, the cross bunker between No. 7 tank and the machinery space is divided by the longitudinal bulkheads to form three tanks. The capacity of each of the port and starboard tanks is 274 tons, while the centre compartment holds 360 tons. The port and starboard deep tanks each have a capacity for 470 and 458 tons respectively, bringing the total capacity for fuel oil, including the double bottoms, to 1,942 tons. The deck machinery throughout is steam operated, the 13 in. by 14 in. windlass and the three 8 in. by 12 in. warping winches with extended ends having been supplied by John Lynn & Co., Ltd., Sunderland. The four-cylinder electro-hydraulic steering gear is of the latest design manufactured by Donkin & Co., Ltd., Walkergate, Newcastle-on-Tyne. Mechanical ventilation on the Norris system is provided throughout the ship.

Navigational and Life Saving Equipment

The comprehensive array of navigational aids on this vessel are of the most modern design and include a Sperry gyro compass and a medium frequency and high frequency radio transmitter by the Radio Corporation of America, who also supplied the emergency transmitter and radar equipment. There are four lifeboats—two of them motorboats with a capacity for 28 persons, the remaining boats being designed to carry 32 persons. These boats were supplied by Mechans, Ltd., and are carried on Taylor davits.

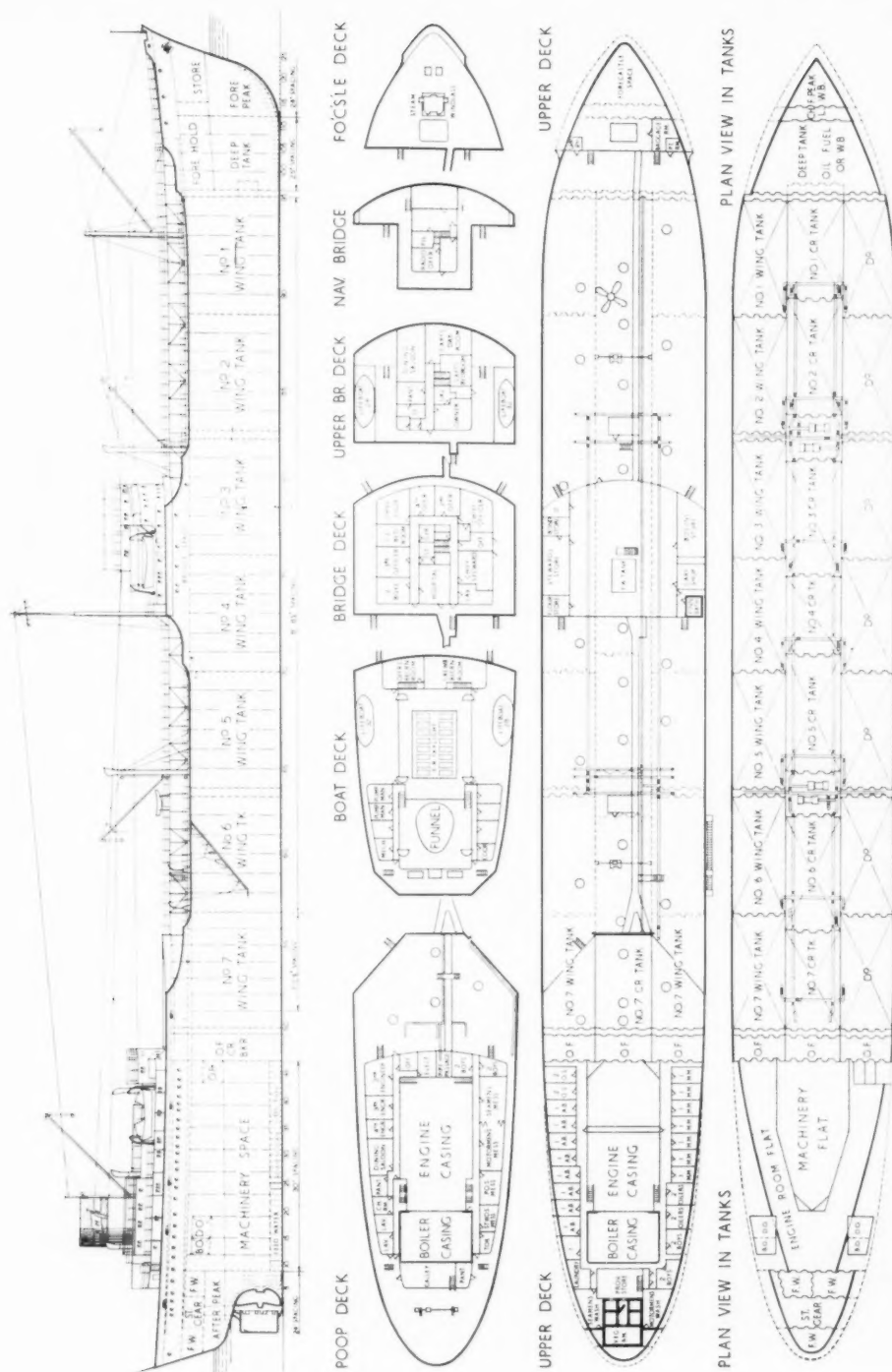
As previously mentioned, the accommodation has received special attention and is well above the high



Seaman's berth



Officers' dining saloon



GENERAL ARRANGEMENT OF THE MOTOR TANKER "HOEGH ARROW," 23,000 TONS D.W.

Built by Sir James Laing & Sons, Ltd., Sunderland, for Leif Høegh & Company, Oslo

ACCOMMODATION IN THE TANKER "HOEGH ARROW"



Captain's dayroom



Chief officer's room



Captain's dining saloon



Officers' recreation room



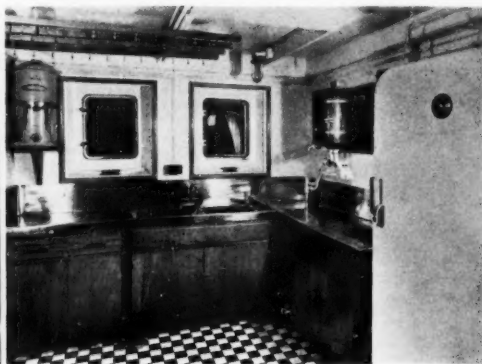
Radio officer's room



Chief steward's room



Crew's recreation room



Captain's pantry

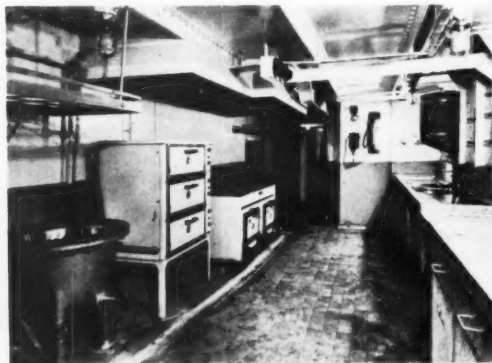
standard normally found in modern tankers. The deck officers and radio operator are berthed amidships, the cabins for two cadets, chief, second, third and fourth officers, chief engineer and chief steward being arranged on the bridge deck. As is now usual, the chief engineer has a suite comprising dayroom and bedroom with an adjoining w.c. The captain's suite is situated on the deck above—the upper bridge deck—which also contains a comfortably fitted twin-berth cabin for the owner, provided with a separate w.c. Also on this deck is a dining saloon with seating capacity for eight persons as well as an additional table for the two cadets. The engineer officers are berthed aft on the port side

of the poop deck, where they also have a dining saloon with adjacent pantry. Their changing room is aft of the pantry and next to the w.c.s. The electrician's cabin, another for two boys and one for two mess boys, is arranged along the curved front of this house. The starboard side of this deck is almost completely taken up with the messes for the seamen, motormen, P.Os

CARGO OIL TANK CAPACITIES

Tank	100 per cent Capacity		Capacity allowing for 2% expansion	
	Cu. ft.	Tons at 35 c.f./ton	Cu. ft.	Tons at 50 c.f./ton
No. 1 Centre	48,460	1,384	47,510	950
No. 2	56,274	1,608	55,171	1,103
No. 3	56,231	1,606	55,128	1,103
No. 4	38,490	1,100	37,735	755
No. 5	56,267	1,608	55,164	1,103
No. 6	55,983	1,600	54,885	1,098
No. 7	56,492	1,614	55,384	1,108
Total Centre	368,107	10,520	360,977	7,220
No. 1 Wing (P)	44,994	1,285	44,112	882
No. 2	53,178	1,519	52,135	1,043
No. 3	55,108	1,574	54,027	1,081
No. 4	52,842	1,510	51,806	1,036
No. 5	53,941	1,540	52,883	1,058
No. 6	53,737	1,535	52,683	1,054
No. 7	52,500	1,500	51,471	1,029
Total Wing	732,600	20,926	718,234	14,366
Grand Total	1,100,797	31,446	1,079,211	21,586

TANK CAPACITIES OF THE "HOEGH ARROW"				
Ballast, Fresh Water and Fuel Tanks				
Tank	Capacity (Cu. ft.)	Salt Water (Tons)	Fresh Water (Tons)	Oil Fuel (Tons)
After peak	7,500	214	—	—
F.W. tank aft	2,340	—	65	—
F.W. tank aft (P)	1,550	—	43	—
F.W. tank aft (S)	2,230	—	62	—
Double bottom	—	—	—	—
Feed water	1,480	—	41	—
Oil fuel (P)	2,070	—	—	53
Oil fuel (S)	2,070	—	—	53
Cross bunker (P)	10,690	—	—	274
Cross bunker (S)	10,690	—	—	274
Cross bunker (Cr.)	14,030	—	—	360
Aft cofferdam	9,650	276	—	—
For'd cofferdam	4,500	128	—	—
Deep tank (P)	18,330	524	—	—
Deep tank (S)	17,870	510	—	—
Fore peak	8,570	244	—	—
F.W. tank (Bdge.)	720	—	20	—
Totals	—	1,896	231	1,942



The galley



Seamen's and motormen's mess

and stewards. The well-appointed and modern galley is at the after end of the boiler casing and has a hatch through into the pantry.

On the boat deck above are three deckhouses with accommodation for P.O.s in the two aftermost while the house at the forward end of the boat deck contains the recreation rooms for the officers and for the crew. Ample deck space is provided on this deck, which is wood sheathed. The upper deck is designed to accommodate the seamen on the port side and the firemen and oilers on the starboard side of the boiler and engine room casing. Aft of the boiler casing are the spacious refrigerated store rooms, comprising three meat rooms, fish room and handling room and the provision store. Ample toilet facilities are provided in addition to a Finnish bath. It should perhaps also be mentioned that another Finnish bath is arranged on the upper deck amidships on the starboard side and aft of the carpenter's shop and boatswain's store. The port side houses the flour store, steward's store and bonded store.

A 20-tons fresh water tank and a fresh water pressure tank are also situated in this space.

The main propelling machinery, constructed by William Doxford & Sons, Ltd., comprises a standard Doxford opposed-piston oil engine having six cylinders 670 mm. in diameter and with a combined stroke of 2,320 mm. The engine develops 6,800 b.h.p. at 118 r.p.m. Steam requirements are supplied from two multitubular boilers 14 ft. in diameter and 12 ft. long, with a heating surface of 4,800 sq. ft. These boilers are arranged for oil firing and also to utilise the exhaust gases from the main engines while at sea, the steam being supplied at a pressure of 150 lb. per sq. in. Electrical power throughout the ship is supplied by two 150-kW. D.C. generators running at 500 r.p.m. and driven by 6-cylinder diesel engines. There is also a steam-driven generator rated at 50 kW. and driven by a steam engine, supplied by the Sunderland Forge and Engineering Co., Ltd., who were also responsible for the switchboard and electric wiring installation.

ELECTRIFICATION OF SHIPYARDS*

By J. S. McCULLOCH

[In these abstracts it has been necessary in the interests of space to omit many valuable diagrams incorporating the results of calculations on the subjects discussed. These may be seen in the original paper.]

THERE are two questions concerning electricity supply that are uppermost at the present time in the minds of those responsible for running shipyards; (a) the rising cost of energy, and (b) load shedding. The electricity supply industry has in the past been proud of the fact that the cost of electricity continued to fall from 1900 until about 1941. Unfortunately, the price of electricity has risen in recent years, and there is no doubt that it will rise still further. The reason for the increase is the rising cost of coal. Taking the year 1938 at 100, the average cost of generating-station coal at the pit-head was 140 in 1941, 230 in 1946 and 270 in 1949. The increased thermal efficiency of the new power stations is mitigating somewhat the increased cost of coal, but in the present difficulties of shortage of generating plant, the British Electricity Authority is having to retain the less efficient older stations. Another factor that will shortly cause a rise in the average price per unit is the rapid rise in the cost of generating and distribution plant. These increased capital costs have not yet, in the main, been reflected in tariffs, but it is quite apparent that they will take effect on all new agreements.

As well as being proud of the falling price of units in previous years, the electricity supply industry was proud of its record of continuity of supply. The country was consequently not prepared for the load shedding which burst upon it in the winter of 1946. It was, however, no shock to the supply industry. Some years earlier they warned the Government then in power that the limited orders for plant allowed by the Government to the industry were inadequate to meet future demands. As recently as last December, the chairman of the British Electricity Authority said quite bluntly that the amount of new capital expenditure allowed to the British Electricity Authority for the coming years was inadequate to meet the rising demand of electricity. It is hoped that it has been made clear that load shedding, which is the result of shortage of generating plant, is not due to incompetence in the supply industry; it is one of the effects of the country's present economic condition.

As load shedding is to be a feature of public supply for some years to come, the consumer naturally looks for some means to alleviate the dislocation caused by the cessation of supply. Electricity supply agreements generally contain a clause which prohibits consumers using electricity on their premises other than from the public mains. There are special agreements for consumers who can economically generate portions of their own supply, though the charge for units from the mains is usually higher if the consumer chooses to generate units himself. During the war, this restrictive clause in standard agreements was declared to be in abeyance temporarily and the supply authorities were prepared to waive it until 1952. This did not make the installation of stand-by generating plant attractive to a

consumer as it could not be written off economically within the period during which its use would be allowed. At the time of writing this paper, negotiations are proceeding and it is expected that the Electricity Boards will be prepared to waive this restrictive clause until at least 1956. This will give the consumer a longer period to pay off the capital charges of installing a private generating plant, but in view of the national shortage of power station generating plant it is suggested that 1960 would have been a more reasonable date.

Usually the supply will be made by the Electricity Board at high voltage to the perimeter of the yard, which may comprise an estate of many acres. Advantage of this high voltage supply should be taken to transmit the power to a substation located at the load centre of the yard. This will result in a saving of both cable cost and distribution losses. In a large yard, consideration should be given to the use of more than one substation. The large amount of power required over the whole area of the yard can thus be distributed by means of economical high-voltage distribution to convenient load centres. When more than one substation is used it is advantageous to interconnect the substations on the low-voltage side, as this facilitates maintenance and it enables some load to be transferred in the event of a substation breakdown.

Electricity Supply for Welding

The development of electric welding has given rise to the need for a system of electricity distribution peculiar to building berths. Due to the different stages of construction of ships on adjacent berths, the location of the maximum load moves as the state of building on each berth alters. If a radial system of cables is used each cable down the berths must be of sufficient size to carry the maximum load even if it is only called on to do so for a short time. The use of an interconnected system of distribution will reduce the size of cable required, facilitate the interchange of the position of maximum load, and will help to assure the maintenance of supply to any given point in the event of a cable failure.

The standard A.C. voltage of 415 volts is not suitable for distribution as temporary wiring to provide power and lighting on board ship during construction. The Factory Inspectorate rightly consider it to be a dangerous voltage for use in these conditions. If multi-operator A.C. welding plant is being used with plug-in welding distribution boxes, a source of 110-volts A.C. is available on board ship and this source of supply can be conveniently used for temporary lighting. A cheap means is available of providing even a lower and consequently a safer voltage for temporary lighting. A 110/50-volts transformer can be provided alongside the distribution box and plugged in to one of the 110-volts welding sockets. The 50-volts winding of the transformer can have its centre point earthed giving only 25 volts to earth. Not only is this voltage intrinsically safe, but 50-

* Abstracts of a paper read before the N.E. Coast Institution of Engineers & Shipbuilders on February 9.

volts lamps have much stronger filaments than 110-volts lamps and thus can be expected to have a longer life. Where 230-volts D.C. is available, the Factory Inspectorate will permit its use on board ship for temporary lighting, but it must not be considered intrinsically safe.

Perhaps the biggest changes that have taken place in the design of shipyard electrical installations in recent years have been due to the introduction of large-scale welding. There has been much discussion as to the best system of welding, and controversy has centred on the rival claims of A.C. or D.C. It is not within the scope of this paper to pursue the argument further except to say that their can be little doubt that all new welding installations of any size, except extensions to an existing D.C. system, will use an A.C. distribution network. The remarks that follow are confined to the design of an A.C. distribution system using multi-operator A.C. welding sets.

Of principal interest to the designer of an installation to accommodate a welding load is a knowledge of the magnitude and nature of the load. The drooping characteristic required for welding is obtained by the use of a reactor, and this causes the current taken from the network to have a poor or low lagging power factor, and since the time an operator is actually welding is only a fraction of the total time the welding equipment is in use, it is important to determine reasonably accurately the power factor and the total load which will be imposed by a group of welders.

If this poor power factor is not corrected, larger transformers, cables and switchgear will have to be used, and, as most electrical tariffs have some form of bonus for operation on a good or near-unity power factor, it will result in an increased cost per unit of electricity used. The usual method of correcting p.f. is the installation of static condensers. In special circumstances an over-excited synchronous motor might be used, but in a shipyard installation the possibility is remote. The best place to correct the p.f. is where it is developed and condensers are fitted as standard equipment to multi-operator welding transformers. If these condensers were made of sufficient capacity to give full correction for the maximum load they would be of such a large capacity that the current drawn from the line before welding commenced would be much greater than the current at maximum load; in fact it would be almost as great as the uncorrected current and there would be no advantage in the reduction of cable and switchgear costs.

Some compromise is necessary, and the best size must be determined from the number of welding sets, the type of network and estimated loading. The balance of the capacitance may be concentrated under the control of an automatic relay in the substation, or in the case of an extensive network and estimated loading. The balance of the capacitance at remote parts of the network and controlling them from the substation by pilot cables. If the welding and power networks have been designed together it will be possible to use this system of p.f. correction to correct for other sources of poor p.f., such as lightly loaded A.C. motors, and so obtain the benefit of an improved p.f. for the whole shipyard load.

New Light Sources

The new light sources that have become available have enabled the lighting engineer to meet the new illumination standards in a variety of ways. The most efficient lamp in normal use at the present time is the sodium 140-watt lamp, with an efficiency of 55 lumens per watt, though of course its monochromatic yellow colour restricts its use. The mercury-discharge lamp of equivalent output is the 250-watt size with an efficiency of 30 lumens per watt. The equivalent standard incandescent lamp is the 500-watt with an efficiency of 16 lumens per watt. The sodium and the mercury-discharge lamps are generally used for external lighting, but they are also used for internal lighting where sufficient height is available to take full advantage of their large unit light output. Developments in the design of arc-discharge light sources are proceeding at a rapid rate, and it seems not unlikely that for lamps larger than 500 watts we can expect, in due course, white light at efficiencies of about 70 lumens per watt.

The lighting of shipyards can be broadly divided into two sections: (a) the internal lighting of the shops and offices, and (b) the external lighting of the yard. Prior to 1939 artificial lighting in shipyards, and in fact throughout the country's industrial premises, did not receive the attention of management that it deserved. The recent was brought about a change in the hours of use of factories, and rapid strides were made in improving the standards of artificial lighting. The Government issued an Order in Council which laid down certain minimum standards of intensity of artificial lighting to be installed in industrial premises. By and large, the service value of average illumination for

internal lighting in shipyards should be not less than 8 lumens per sq. ft. There are, however, shops in which this value does not provide sufficient illumination for the operator to carry out his task with accuracy, speed and comfort and with the minimum of fatigue and waste; in other words, 8 lumens per sq. ft. may not provide conditions in which the operator can see his work adequately and has the will to work. All these factors have an effect in the economics of production and good artificial illumination can help in a remarkable way in providing the conditions necessary to get the best work from operators.

In designing an internal lighting installation it must be remembered that it is the reflected light from the surfaces that determines the effectiveness of the installation. A lighting installation is well designed only when the light sources and their reflectors or enclosures have been placed in the right place, and the walls, ceiling and plant have been coloured in such a way that the combined effect is that of a pattern of brightness which is known to produce good seeing and a good environment. Good interior lighting is made up of two factors, brightness and contrast. The brightness of the work illuminated must be sufficient, and must be greater than anything else in the field of view, and that brightness must be obtained without giving glare and hard shadows. The surroundings of the work being illuminated must have a uniform brightness of lower value, again free from glare and hard shadows. It is generally accepted that the ratio between the brightness of the work being illuminated and the surrounding brightness should not vary by a ratio of more than 5 to 1.

Complete Scheme of Exterior Lighting

An opportunity for designing and installing a complete scheme of outside lighting arose five years ago when one of the largest shipyards on Tyneside decided to proceed with the lighting of the complete yard of over 40 acres in area to such a level of intensity that work could proceed at night. In designing the installation it was soon realised that the conventional equipment available at that time would be insufficient for supplying the required level of illumination in many areas. The installation consists of 460 area flood lanterns, 57 cut-off lanterns and 14 vertical elliptical reflectors switched in groups so that parts of the installation can be used for occasional night working.

The three distinct areas to be illuminated were, (a) large working areas where the usual columns for supporting lanterns were undesirable; (b) open-air stores such as plate-racks where good illumination of vertical surfaces was required without glare from long rows of lanterns, and (c) building berths on which shipbuilding was carried on without the usual uprights or overhead structures of any sort. Applying the conventional lighting fittings to large working areas, of which the fitting-out quay is a typical example, would have proved very wasteful owing to the lack of directional distribution in the vertical plane. The diversity in the illumination would also have been considerable, with too much light in a comparatively small area below the lanterns and too little light between the lanterns. A special area flood lantern was designed with close optical control in the vertical plane using a 400-watt mercury-vapour lamp in the horizontal position. The lanterns are mounted at 60-feet height giving controlled distribution for a distance of 130 feet along the ground. In the interests of economy and to avoid a multitude of columns, groups of lanterns are erected on towers. The installation provides high illumination with efficient light sources but without disability glare; it gives an even distribution of illumination at the working level and uses the minimum of supports.

The problem of providing good illumination on the vertical surfaces in the plate racks to read the identification marking on the plates was solved by installing a lantern giving close control of the light projected along the area to reduce glare, but with less directional distribution across the area. A cut-off lantern, similar to a road lighting lantern, was designed to give this control. The building berths have neither overhead structures nor uprights and the problem of providing adequate lighting without glare has proved to be very difficult. The avoidance of glare is of great importance in view of the comparatively narrow working platforms. Various experiments have been carried out and final conclusions have not yet been reached.

Too many electrical installations have, in the past, been allowed to grow in a haphazard fashion with resultant un-economic operation and increased risks of breakdown. With the increasing loads demanded by modern shipyards the electrical installations in them are becoming more complex.

With the prospect of increased charges for electricity and electrical equipment, it is essential that shipbuilders obtain from their installations the best service they can.

" TWELVE PASSENGERS "

LAYOUT OF PASSENGER ACCOMMODATION IN CARGO SHIPS *

IT WOULD seem that the technique of passenger carrying in small ships is still fluid, but there are certain definite rules, among the most important of which is that the number of passengers which may be carried in a pure cargo ship is limited by maritime law to twelve. To exceed this number involves the complete re-design of the ship, in that she must be subdivided into the number of watertight compartments required for a passenger liner, and thus becomes less suitable for her purpose of carrying cargo. Another disadvantage is that it is usually essential to include an additional superstructure deck when more than 12 passengers are carried, and the weight of this must be deducted from the cargo-carrying capacity of the ship. In any case passenger accommodation involves a substantial addition to first cost, and operating costs are increased.

If, then, after weighing up the disadvantages against the practical value of providing for a maximum number of passengers, the owner decides that the latter course is advisable, he has the means of adding a smart unit to his fleet, and, in the face of competition, is obliged to design the ship to this end. How to arrange?

The size of ship naturally affects the arrangement, for while the usual layout in vessels up to about 300 ft. in length consists of four double and four single berths, in larger vessels between 300 and 450 ft. in length, 12 single-berth cabins are sometimes fitted. There is provided for passengers' use a dining saloon, a smoking room, and a separate bar.

Sanitary arrangements are vitally important. The accepted ideal is the provision of a separate toilet adjoining each passenger cabin, but it is not always economical. A satisfactory modification is found when the private toilet fittings are limited to a washbasin in each cabin, and a number of baths, showers and w.c.'s are fitted in adjacent spaces.

The use of plastic facings in attractive colours

eliminates the nuisance of dirt accumulating in inaccessible places, and provides a washable, smart-looking method of bulkhead and shell lining, and internal division. Tiles on the floor in washplaces with large mirrors, adequate lighting, and modern sanitary fittings are commonplace in passenger-carrying merchantmen, and the degree of luxury is being carried to a high standard.

An extensive range of plywoods and plastics, and many kinds of decorative timbers are obtainable today and a well-designed system of panelling is frequently the most admired feature of the accommodation. Linoleum floors and decking compositions are extensively used, and a large range of colours obviates any matching difficulties. Each stateroom should incorporate a bed—not a bunk—bed light, dressing table, wardrobe, bedside table, easy chairs, and, where there is no private bathroom adjoining, a washbasin with running hot and cold water. Two ceiling lights at least should be provided. Carpets, curtains over sidelights and round beds—though this is largely obsolete—and other soft furnishings complete the means of providing acceptable comfort during the voyage.

Arrangement of Public Rooms

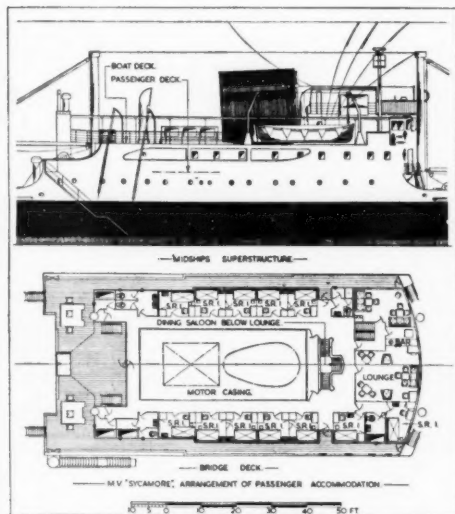
With advantage there can be an embarkation hall, where the passenger finds himself after boarding the ship. This is the "centre" of the accommodation, from which the dining saloon usually opens in one direction, and the cabin alleyways lead aft in the other. The staterooms are located on each side of the machinery space casings, either on the weather deck or on the second superstructure deck above the weather deck, reached by a staircase from the entrance hall.

The sanitary arrangements may be conveniently located at the after end, while the public rooms are forward where the maximum light is obtainable from superstructure front and sides. Secondary access is provided to the accommodation at the after end, and also on to the vestibule which separates the sleeping accommodation from the public rooms. It is important—dependent on the service—to provide outside deck space, some of it glassed in for use in bad weather, the boat deck or an extension of the passenger deck being usually utilised for this purpose.

The dining saloon is fitted with tables, chairs, and sideboard, with sufficient seating accommodation usually provided for all passengers, and for the captain and senior deck and engineroom officers who eat with the passengers. In the lounge or smoking room, easy chairs and sofas are fitted, and there are usually glass or plastic-topped tables, writing tables and card tables. The bar can be arranged either at one end of the saloon, or through communicating doors. All the rooms must be efficiently heated in cold weather and, what is more important, properly ventilated, a factor which seems to be almost entirely overlooked in many public places ashore. The use of mechanical heating and ventilating systems has provided the answer to a difficult problem and is installed in all new cargo liners.

Merchant ships are faster today than of old, and especially vessels regularly engaged on the fruit and meat lines. "Cargo liner" travel is just as convenient and almost as fast as travel by passenger liners. There is every prospect that the travelling world is taking advantage of the fine facilities offered them by cargo liner owners, particularly in the smaller types of ship. At the best, such facilities offer some additional revenue; at the worst they are an indication of the fact that the owners are closely in touch with modern thought. The carriage of passengers by sea in individual ships is something which is here to stay, and one of the designers' main problems is to correlate the almost limitless possibilities of luxury with the more prosaic demands of economic ship operation.

* Abstracts from an article published in the *Bundesland and Hull Russell Shipping Journal*, Vol. 22, No. 1.



Passenger layout in the Johnston Warren cargo liner "Sycamore"

NEW CONTRACTS

Yards in Great Britain and Northern Ireland

Shipowners	No. of Ships	Type	Approximate Tonnage		Dimensions (ft.)	Speed (knots)	Propelling Machinery	Total h.p.	Engine Builders	Shipbuilders
			Gross	Deadweight						
P. & O. S.N. Co.	1	Passenger liner	28,000	—	—	—	Tw-scr. geared turbine	—	—	John Brown
P. & O. S.N. Co.	1	Passenger liner	28,000	—	—	—	Tw-scr. geared turbine	—	—	Harland & Wolff, Belfast
Bolton S.S. Co.	1	Cargo	—	10,100	—	11.5-12	Tr.-exp. steam B. & W. turb.	—	—	Smith's Dock
—	1	Cargo (newsprint)	—	7,000	—	—	—	—	—	Blyth D.D.
—	1	Tanker	—	1,500	—	—	—	—	—	Blyth D.D.
British Tanker Co., Ltd.	6	Tanker	—	32,000 (each)	35 dft.	14.75	Geared scm. turbine	—	—	John Brown & Co. (2); Vickers-Armstrongs, Barrow (2); Swan Hunter (1); Harland & Wolff, Belfast (1)
British Tanker Co., Ltd.	12	Tanker	—	16,000 (each)	30 dft.	13.75	Diesel	6,400	Kincaid (3); Barclay, Curle (1); H. & W. (2); Swan, Hunter (1); Hawthorn, Leslie (1); Doxford (1); NEM (3)	Lithgows (2); Wm. Hamilton (1); Blythswood (1); Cammell Laird (1); Swan, Hunter (1); Hawthorn, Leslie (1); Doxford (1); J. L. Thompson (2); Sir James Laing (1); Smith's Dock (1)
British Tanker Co., Ltd.	3	Tanker	—	14,000 (each)	28.25 dft.	12	Harland-B. & W. Diesel	4,500	—	Harland & Wolff, Belfast
Temple S.S. Co.	1	Cargo	—	9,400	—	—	4-cyl. Doxford diesel	—	D. Rowan	Harland & Wolff, Ltd., Govan (2), Belfast (1), Lithgows
—	1	Tanker	—	12,000	—	—	Diesel	—	—	—
Burmah Oil Co. (Tankers)	1	Tanker	—	8,400	400 56 30.08	12	Doxford diesel	3,500	Wallsend Slipway & Eng. Co.	Swan, Hunter, Wallend
Burmah Oil Co. (Tankers)	1	Tanker	—	8,400	400 56 30.08	12	Doxford diesel	3,500	Sulzer Bros., Winterthur	Cammell Laird
Eagle Oil & Shipping	1	Tanker	—	18,000	—	—	Steam	—	—	Cammell Laird
Commonwealth and Foreign Yards										
Tanker Corporation, Panama	1	Tanker	—	18,000	—	—	Diesel	—	—	Howaldtswerke A.G., Kiel
Rederi A.B. Nordstjernan, Stockholm	2	Cargo liners*	6,900 (each)	9,000 (each)	—	19.5	Tw-scr. diesel	16,400 (each)	—	Howaldtswerke A.G., Kiel
N.V. Stoomv. Maats. Oostzee, Amsterdam	1	Tanker	—	17,500	—	—	—	—	—	Wilton-Fijenoord, Schiedam
U.S.S.R.	3	Cargo	—	6,500 (each)	—	14	Diesel-electric	—	—	Kon. Maats. "De Schelde," Flushing

* These vessels are to be delivered at the end of this year and in the middle of next year. An order for a vessel of this type to be delivered at the end of the year by Howaldtswerke for the same owners has already been in THE SHIPPING WORLD.

LAUNCHES

Yards in Great Britain and Northern Ireland

Date	Shipowners	Ship's Name and/or Yard No.	Type	Approximate Tonnage		Dimensions (ft.)	Speed (knots)	Propelling Machinery	Total h.p.	Engine Builders	Shipbuilders
				Gross	Deadweight						
Jan. 25	Bombay Port Authority	Ajit (1215)	Tug	60	—	—	—	Steam	—	—	Philip & Son
Jan. 26	Bombay Port Authority	Ashok (1216)	Tug	60	—	—	—	Steam	—	—	Philip & Son
Jan. 27	Iraq Pet. Co.	(5669)	Diving barge	102	—	65 28 7	—	Non-propelled	—	—	Richard Dunston, Hestle
Feb. 6	British Electricity Authority	Brimsdown	Collier	1,800	2,680	257 b.p. 39.5 18.5	—	Sin.-scr. tr.-exp. steam	800	N.E. Marine	Burntisland S.B.
Feb. 7	British Tanker Co.	British Guide (435)	Tanker	8,850	12,200	490.83 o.a. 61.75 33.92	11.5	4-cyl. Doxford diesel	3,100	R. & W. Hawthorn, Leslie	Furness S.B.
Feb. 7	McCowen & Gross	Derrymore	Cargo	5,600	10,600	435 l.w.l. 60 30	—	4-cyl. Doxford diesel	4,400	R. & W. Hawthorn, Leslie	Burntisland S.B.
Feb. 7	Gdynia-America Shipping Lines, Gdynia	Tatry	Tanker	7,600	11,000	445 b.p. 60.5 34	13.5	4-cyl. Doxford diesel	4,250	N.E. Marine	Bartram & Sons
Feb. 7	Rederi A.B. Wallen, Stockholm	Aida (475)	Tanker	9,500	13,500	500 o.a. and 470 b.p. 35.5	13.5	4-cyl. Doxford diesel	4,400	Vickers-Armstrongs	Caledon S.B.
Feb. 8	Moltzau & Christensen, Oslo	Orkdal	Tanker	8,200	12,000	487.5 o.a. 59 34.83	—	6-cyl. 4-str. B. & W. diesel	—	—	Harland & Wolff, Belfast
Feb. 8	Icelandic Govt.	Parkell Mani	Trawler	—	430	—	14	Ruston diesel	1,449	—	Goole S.B.
Commonwealth and Foreign Yards											
Nov. 11	Cie. Auxiliaire de Nav. Paris	Berence (Z12)	Tanker	20,980	31,200	619.01 b.p. 85 35	15	2-str. B. & W. diesel	13,560	—	Ch. et Atel de St. Nazaire-Penhoet
Nov. 14	Philadelphia Tankers, Inc.	Atlantic Navigator (484)	Tanker	19,500	30,350	625 b.p. 85 34	17	Sin.-scr. Westinghouse geared turbine	18,000	—	New York S.B. Corp., Camden, N.J.
Nov. 16	A.S. Det Ostasiatiska Kompani	Magdala (126)	Cargo	8,400	10,000	445 b.p. 61 38.25	15	6-cyl. 2-str. diesel	5,500	Burmester & Wain, Copenhagen	Nakskov Skibs.
Nov. 19	Soc. per Azioni di Nav. Italia	Augustus (1757)	Passenger liner	21,450	—	616 86.5 49.25	21	Tw-scr. 12-cyl. Fiat diesel	26,000	—	Cant. Riuniti dell' Adriatico

Nov. 21	N.V. Stoomv. Maats. "Oostzee"	Oostmarsum (727)	Cargo	10,000	9,500	416.7 b.p. x 59.7 x 40	12.5	4-cyl., 2-str. Duxford diesel	3,450	Shipbuilders	Wilton-Fijenoord, Schiedam
Nov. 22	Peder Smedvig, Stavanger	Veston (110)	Tanker	10,000	16,000	514 o.a. x 65.75 x 36.75	14.5	8-cyl., 2-str. Gotaverken diesel Unaflo steam	7,000	—	Oresundsværket A.B., Landskrona
Nov. 23	West India Fruit & S.S. Co.	New Grand Haven (251)	Train ferry	7,250	—	435 b.p. x 70 x 22.5	—	—	10,000	—	Canadian Vickers, Montreal
Nov. 24	De Danske Statsbaner	Dronning Ingrid (302)	Ferry	2,950	—	353.7 o.a. x 56.5 x 21.1	16.5	Tw.-scr., 6-cyl., B. & W. diesel	5,500	Shipbuilders	Elisnore S.B.
Nov. 28	Cie. Generale Transatlantique	Perou (223)	Cargo liner	6,800	8,300	482.3 o.a. x 62.3 x 38.9	16	Sin.-scr. Sulzer diesels	10,000	—	Forges et Ch. de la Grande
Dec. 3	Soc. di Nav. Adriatica	Enotria (235)	Pass. and cargo liner	5,200	2,250	360 o.a. x 53 x 33	18	Tw.-scr. Fiat diesel	7,400	—	S.A. Ansaldo Cant. di Livorno
Dec. 16	J. Ludwig Mowinckels Rederi A/S, Bergen	Rygga (430)	Tanker	10,426	16,000	521.7 b.a. and 495.4 b.p. x 67.8 x 36.45	13.65	Sin.-scr., 6-cyl. Stork diesel	5,500	—	Netherlands Dock & S.B. Co., Amsterdam
Dec. 16	Hamburg-Süd-amerikanische Dampfschiffahrtsgesellschaft	Santa Ursula (866)	Cargo	6,300	9,400	475.33 x 61 x 27.33	12	6-cyl., 2-str. M.A.N. diesel	—	—	Howaldtswerke A.G., Hamburg
Dec. 19	Ned. Ameri-kaansche Stoomv. Maats.	Rijndam (732)	Pass. liner	12,000	—	475.4 x 69 x 42	—	Steam turbine	8,500	—	Wilton-Fijenoord, Schiedam
Dec. 19	Rederit Bachke & Co., Trondheim	Vigrid (191)	Cargo	2,700	4,200	334.66 b.p. x 48.08 x 21	14	B. & W. diesel	3,050	—	Sarpsborg M.V., Kalmarsund
Dec. 21	Kalmarsunds Angbats A/B	Kalmarsund I (370)	Dble-ended car ferry	350	—	137.83 x 35.16 x 14.83	11.5	Nohab diesel	1,500	—	—
Dec. 22	Soc. des Transports Maritimes	Franchise (114)	Tanker	9,980	15,500	—	—	Diesel	—	—	—
Dec. 23	Cie. Generale Transatlantique	Saint Ferrel	Cargo	3,850	4,200	389.3 o.a. x 50.9 x 24	14	Sulzer diesel Tr.-exp. steam	4,000	—	Odense Staalsskibsværft, Ch. Navals de la Ciotat
Dec. 27	Indian Govt (Scindia S.N. Co.)	Jalopalaka (V.C.106G2)	Cargo	5,200	—	—	—	—	—	Kincaid	Scindia S.N. Co., Vizagapatam
Dec. 27	Camelegre Frères	Simoun	Trawler	200	—	—	—	—	—	—	Chantiers Augustin-Normand
Dec. 28	S.A. Petrofina Francaise	Purifina-Angleterre (202)	Tanker	11,800	15,500	516.5	—	8-cyl. Schneider-B. & W. diesel	6,500	—	Atel. et Ch. de France, Dunkirk
1951	D. R. Kajviter	Nomadisch	Cargo	370	—	—	—	—	—	—	Scheeps- "Hoogezand" Jac. Bodewes
Jan. 6	Overseas Tankship Corp.	Caltex Liege (747)	Tanker	11,868	17,200	544.875 o.a. and 515 b.p. x 70 x 39.75	15	Sin.-scr., dble.-red. geared Parsons turbine	7,300	Shipbuilders	S. A. John Cockerill, Hoboken
Jan. 6	J. Beck	Victory	Cargo	400	—	—	—	—	—	—	Burmeister & Wain
Jan. 9	Empresa Nacional "Elcano"	Monasterio de El Escorial (66)	—	7,723	—	457.5 x 62.1 x 39.7	18	6-cyl., 4-str. Diesel	640	—	E. J. Smit & Zoon
Jan. 10	Kaufahrts-Seederei Adolf Wards & Co.	Elisabeth Wiards (416)	Cargo	5,850	10,000	482 x 59.7 x 36.4	12	M.A.N. diesel	2,670	—	Soc. Espanola de Constr. Naval, Bilbao
Jan. 10	Port of Copenhagen	Grane	Icebreaking tug	100	—	—	—	—	—	—	Flenderwerke
Jan. 11	Stockholms Rederi A/B Svea	Mimer	Cargo	1,400	2,350	299 x 41.75 x 25.25	13	5-cyl. Polar	1,600	—	Svevborg Skibsværft
Jan. 13	S.A. de Gerance et d'Armement	Tourquennois (629)	Cargo	3,300	—	370.8 x 54.3 x 29.2	17	Diesel	6,000	—	Finboda Varf.
Jan. 17	Knut Knutsen O.A.S. Haugesund Colonial Steam ships, Ltd.	O. A. Knudsen (649)	Tanker	11,000	17,400	540.66 o.a. x 66 x 39.25	14.5	9-cyl., 2-str. diesel	8,000	—	Ch. de Bretagne, Nantes
Jan. 17	Scott Misener	Great Lakes vessel	Pass. and cargo	13,081	—	—	—	—	—	—	Gotaverken, Gothenburg
Jan. 20	Argentine Govt.	Maipu (267)	Pass. and cargo	14,800	—	480 x 64 x 38 (draught)	17	Tw.-scr. diesel	—	—	Port Weller D.D., Ontario
Jan. 24	Lloyd Triestino Line	Africa (1763)	Pass. and cargo	11,400	—	518 x 65	21	Tw.-scr. Fiat diesel	—	—	"De Schelde," Flushing
Jan. 28	Achille Lauro	Valere (917)	Tanker	17,500	26,000	593 b.p. x 82 x 32 (dft.)	—	Diesel	—	—	Riuniti dell' Adriatico, Ronfalcone
Jan. 29	Skibs A/S Snelonn	Berge Bergen (160)	Tanker	10,500	16,200	495 b.p. x 67.75 x 36.5	13.75	5-cyl. Duxford diesel	5,500	—	Ansaldo, Genoa
Jan. 30	U.S. Dept. of Commerce	Schuyler Otis Bland (458)	Prototype cargo	8,800	10,500	—	—	—	—	—	Rosenberg M.V., Ingalls S.B. Corp., Pascagoula

TRIAL TRIPS

Yards in Great Britain and Northern Ireland

Date	Shipowners	Ship's Name and/or Yard No.	Type	Approximate Tonnage		Dimensions (ft.)	Speed (knots)	Propelling Machinery	Total h.p.	Engine Builders	Shipbuilders
				Gross	Deadweight						
Feb. —	Cia. Nacional de Nav., Lisbon	India (329)	Pass. and cargo liner	7,200	6,700	404 b.p. x 58.8 x 29	14.5	Tw.-scr., 4-cyl., 2-str. Duxford diesel	5,000	Richardsons, Westgarth	Barram & Sons
Feb. —	Soc. Generale de Transportes Maritimes a Vapeur, Paris	Provence (1874)	Pass. and cargo liner	16,100	7,885 (metric)	540 b.p. x 73 x 34.5	—	Tw.-scr. sin.-red. geared turbines	—	Parsons Marine	Swan, Hunter & Wigham, Richardson, Walker

MARITIME NEWS IN BRIEF

From Correspondents at Home and Overseas

TOURIST earnings for 1950, including fare payments in British-owned ships and aircraft, are estimated provisionally at £76,000,000, compared with £64,000,000 for 1949. The number of visitors totalled 602,979, as against 555,554 in 1949, and of the 1950 total it is estimated that 124,245 were Americans, in addition to an estimated 38,839 Americans who stayed in the country for brief periods en route to other destinations. Earnings from the North American trade (including Canada) for 1950 are estimated provisionally at £34,000,000 (£27,500,000).

At the delivery of the 7,000-ton passenger vessel *Samsun*, members of a Turkish shipping mission visiting Genoa promised that Italian shipyards would receive further orders if the Marshall Aid assured materialises. New construction, it is stated, may amount to as much as £18,000,000. The *Samsun* has accommodation for 702 passengers and is the fourth of a series of sister ships built in Italy for the Ankara company of Devlet Demiryollari.

The Italian shipping company of Gestioni Esercizio Navi Sicilia has decided to include a call at Malta on the outward bound trip in its regular service between Italy, London, Hamburg, Bremen, Rotterdam, Antwerp and Lisbon. According to an agreement signed with the Soman Line, there will be alternate Italian and German sailings on the route between Italy and Germany as from May.

The Danish Government has asked the U.S. State Department to reject the pool agreement proposed by the Grace Line, the Gulf and South American Steamship Company, and the Compania Sud Americana de Vapores.

MR. J. C. MATHER, vice-chairman of John Holt & Co. (Liverpool), Ltd., has been appointed a director of Cammell Laird & Co., Ltd.

THE first U.S. Government-built cargo vessel launched since the war, the 10,500-ton *Schuyler Otis Bland*, has left the ways of the Ingalls Shipbuilding Corporation at Pascagoula, Mississippi. She was originally designed as the prototype of a new series of U.S. merchant ships to succeed the Liberty and Victory ships, but since then the faster "Mariner" type has been designed to meet the need for higher speeds to overcome the submarine menace. The *Schuyler Otis Bland* will cost about £1,863,000 when completed and will develop a speed of 18½ knots. She is 477 ft. long and has three forward hatches and two aft. There will be accommodation for 12 passengers.

AN ALUMINIUM alloy funnel, 37 ft. high, 37 ft. long and 20 ft. 6 in. at the widest section, is being fitted to the Furness, Withy liner *Ocean Monarch*, building at the Walker-on-Tyne yard of Vickers-Armstrongs, Ltd. The funnel casting is the biggest structure made of aluminium alloy at the yard; it is one-third the weight of a similar structure in steel. The *Ocean Monarch* will run trials about March 23.



CAPT. A. R. S. NUTTING has been appointed chairman of the British & Irish Steam Packet Co., Ltd., in succession to Sir Alfred H. Read, who has retired. Capt. Nutting, who is also chairman of Coast Lines Ltd., was a Governor of the Bank of Ireland from 1924 to 1928. He is chairman of the Westinghouse Brake & Signal Co., Ltd., Trust Houses, Ltd., Edward & John Burke, Ltd., and the Consolidated Signal Co., Ltd. His directorships include that of Arthur Guinness, Son & Co., Ltd., London Electric & General Trust, Ltd., and the Guardian Assurance Co., Ltd.

THE first postwar cargo vessel of the Finland-America Line, the 6,200-ton *Finntrader*, is due in New York towards the end of February on her maiden voyage. She is 377 ft. long, has a cruising speed of 15 knots and her holds have a capacity of 354,000 cu. ft. There is accommodation for 12 passengers.

THE Council of The Society of Consulting Marine Engineers and Ship Surveyors has nominated Mr. G. M. Cousins as president, Mr. C. T. Casbourne senior vice-president, and Mr. H. Strong as junior vice-president of the Society for the ensuing year. The present president is Mr. James Young.

MR. D. MACMILLAN has been appointed to the staff of J. Stone & Co. (Charlton), Ltd., and as from March 1 he will handle marine sales in Scotland from 12 Bulldale Street, Glasgow, W.4.

MR. T. G. BULLEN, director of T. A. Reed, Ltd., consulting engineers, Cardiff, has been appointed non-exclusive surveyor to the American Bureau of Shipping for the ports of Newport, Cardiff, Penarth and Barry.

THE death has occurred of Cmdr. H. G. Staunton, a former captain of the Orient Line. Cmdr. Staunton entered service with the company in 1896 and was for some years senior captain until his retirement in 1933.

HUGHES BOLCKOW SHIPBREAKING CO., LTD., Blyth, has received the 6,000-ton depot ship *Katylus* from Gibraltar for breaking up.

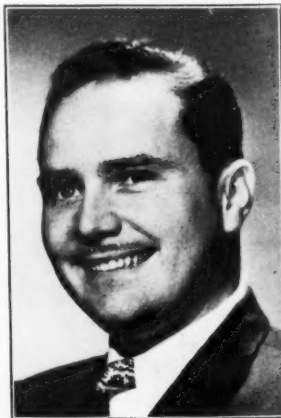
THE British & Irish Steam Packet Co., Ltd., announce that Sir Alfred H. Read, chairman, and Mr. A. A. Lough have retired from the board of the company. To fill the vacancies Capt. A. R. S. Nutting has been appointed chairman and Sir James Milne has been made a director. Capt. Nutting is chairman of Coast Lines, Ltd., and a director of a number of associated companies. Sir James Milne is on the boards of Thos. Cook, Son & Co., Ltd., Dean & Dawson, Ltd., several foreign railway companies and other firms.

THE lowest tender for the construction of the new "Mariner" type of U.S. cargo ships has been made by the Newport News Shipbuilding & Dry Dock Corporation. The yard has offered to build four vessels for \$7,890,000 (£2,818,000) each or five for £2,777,000 each. The first ship would be delivered within 180 days and the fifth ship within 600 days.

MR. W. J. COOK, Mr. W. D. Godin, Mr. R. W. Dick and Mr. P. F. Rogers have been appointed directors of Brewitt Sykes & Co., Ltd. The registered offices of the company are now at 112/114 Fenchurch Street, London, E.C.3. (Telephone: Royal 2555).

THE Port of London Authority is to have an office on Stand 617/514 at the British Industries Fair, Birmingham.

MR. H. G. LESAGE has been appointed temporarily as manager in Paris of the Trans-Canada Air Lines in preparation for the inauguration of its new transatlantic service between Montreal and Paris on April 1. Mr. Lesage, before the Second World War, obtained wide experience with Quebec Radio Station, later joining the Royal Canadian Air Force, where he specialised in the application of advanced radar techniques. In 1944 he joined TCA and assisted in the first experimental radar unit set up in Canada's civil air transport industry at Winnipeg. He was promoted domestic station manager in 1946.



REPAIRS ON THE MERSEY



6

PRIVATE GRAVING DOCKS
ALL ENTERED FROM RIVER

GRAYSON, ROLLO & CLOVER DOCKS LTD.

WORKS AT LIVERPOOL • BIRKENHEAD • GARSTON

Head Office: SANDHILLS, LIVERPOOL

OIL TANK CLEANING BY THE WHEELER PROCESS

SCINDIA STEAM NAVIGATION Co. LTD

Regular Freight & Passenger Service
between U.K. and Continent and
INDIA & PAKISTAN

Freight Services between
INDIA & PAKISTAN and U.S.A.

General Agents for U.K. & Continent :
SCINDIA STEAMSHIPS (London) LTD.,
54, Billiter Bldgs., 49, Leadenhall St., London, E.C.3

BROCKLEBANK & WELL LINES

GLASGOW and LIVERPOOL to CALCUTTA

For Rates of Freight and further particulars, apply to Alex. Howden and Co. Ltd., 107/112, Leadenhall Street, London, E.C.3; P. Henderson & Co., 95, Bothwell Street, Glasgow; The Cunard Steam-Ship Co. Ltd., Bradford, Birmingham; Bigland, Hogg & Co. Ltd., Zetland Bldgs., Middlesbrough; THOS. & JNO. BROCKLEBANK, Ltd., Cunard Building, Liverpool; And Manchester, Dundee and Sheffield.

MIDDLESBROUGH and LONDON to COLOMBO MADRAS and CALCUTTA

For Rates of Freight and further particulars, apply to Gosman & Smith, Ltd., 96/98, Leadenhall Street, E.C.3; Bigland Hogg & Co. Ltd., Middlesbrough; or of the Owners THOS. & JNO. BROCKLEBANK LTD. LIVERPOOL.

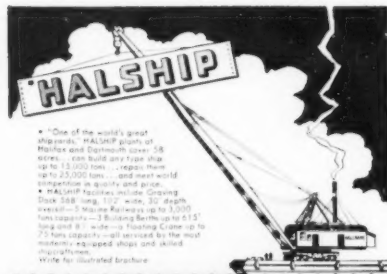
GELLATLY, HANKEY & CO. LTD.

REGULAR SERVICES FROM

**United Kingdom to Egypt, Red Sea, India,
Ceylon Africa, Straits Settlements and
Far East**

For Freight, Passage, Forwarding and Insurance, apply to :

GELLATLY, HANKEY & CO., LTD.,
Dixon House, 1, Lloyd's Avenue, LONDON, E.C.3
or 23 Pall Mall, S.W.1, Manchester, Liverpool, Glasgow



HALIFAX SHIPYARDS LTD.

"Code Name 'HALSHIP' - Est 1860 - Plants at HALIFAX & DARTMOUTH - CANADA"

UNITED STATES LINES

Regular Frequent Service to

NEW YORK

BOSTON, PHILADELPHIA, BALTIMORE & HAMPTON ROADS

FROM

**LONDON, SOUTHAMPTON, LIVERPOOL,
GLASGOW and BELFAST**

For sailings and all information apply

LONDON: 38, Leadenhall St., E.C.3 (Royal 6677)
LIVERPOOL: Wellington Buildings, 7, The Strand (Central 1931 6)
GLASGOW: 179, West George St., C.2
BELFAST: 67, 69 HIGH STREET (Belfast 25451)

Or any authorised Agents



Palm Line operates a frequent and reliable service
of modern cargo liners between West Africa,
the Continent and Great Britain

CARGO LINERS LINKING

WEST AFRICA & EUROPE

UNIVERSITY HOUSE, BUCKINGHAM, LONDON, E.C.4
AFRICA HOUSE, MERSEY ST., LIVERPOOL 1

YARROW

WATER TUBE

BOILERS

Have been selected for installation in the
CUNARD WHITE STAR VESSELS

MEDIA • MAURETANIA

QUEEN MARY • QUEEN ELIZABETH

and

CARONIA

YARROW & CO., LTD., SCOTSTOWN, GLASGOW

THE "DUNSTOS" SHIPS FITTINGS

are just what you need for your ships.



PATENT RUDDER BRAKES, & RUDDER CARRIERS
PATENT "Z" TYPE CARGO BLOCKS

(the latest in Blocks)

IMPROVED WARPING GUIDES,

(with Cast Steel Base)

PATENT HATCH LOCKING BARS

to comply with new Load Line Rules of January 1st, 1947.

(Thousands Fitted)

LIFEBOAT BLOCKS (various types)

SPRING BUFFERS for Steering Gear (various types)

Ask for illustrations, from the Makers :-

TAYLOR, PALLISTER & CO. LTD.

Engineers & Ship Repairers,

DUNSTON, GATESHEAD, II.

TEL. ADD. "REPAIRS" GATESHEAD.

ELLERMAN LINES

World-Wide Services

Linking

U.K. CANADA U.S.A.

with

**SOUTH & EAST AFRICA
PORTUGAL, MEDITERRANEAN,
EGYPT, LEVANT & BLACK SEA,
RED SEA & PERSIAN GULF
INDIA & PAKISTAN,
CEYLON & BURMA
MALAYA, PHILIPPINES, CHINA & JAPAN
AUSTRALIA & NEW ZEALAND.**

*Hall Line, Ellerman & Bucknall Line,
City Line, Ellerman Line
Papayanni Line,
Westcott &
Laurance Line,*

Head Office
106-7, LEADENHALL STREET,
LONDON, E.C.3.
LIVERPOOL—Tower Building,
Water Street
GLASGOW—75, Bothwell St., C.2



World-Wide Services

**WORLD WIDE
CARGO
SERVICES**

CLAN LINE

For details apply :

CAYZER, IRVINE & Co., Ltd.
LONDON • LIVERPOOL • GLASGOW

BLUE STAR LINE

EXPRESS LINER SERVICES

**WEST INDIES & SPANISH MAIN
SOUTH AFRICA, AUSTRALIA,
BRAZIL & ARGENTINA**

or **SAILINGS**, Freight, Insurance and Passages, apply :-**BLUE STAR LINE LTD., 31-33, LIME ST., E.C.3**

Manchester, Birmingham,

Liverpool : Lamport & Holt Line Ltd. Glasgow : J. S. Nowery & Co.

Chief Passenger Office

No. 3, Lower Regent Street, London, S.W.1.

FURNESS LINES

FURNESS LINE

London to Philadelphia and New York.

FURNESS WEST INDIES LINE

New York to U.S. Virgin Islands, British & French West Indies, Venezuela and Trinidad.

Newfoundland and Canada to U.S. Virgin Islands, British & French West Indies, Venezuela & Trinidad.

FURNESS RED CROSS LINE

New York to Saint John, N.B./Halifax, N.S./ St. John's and Corner Brook, N.F.

FURNESS-WARREN LINE

Liverpool to St. John's, Newfoundland, Halifax, N.S., and Boston.

FURNESS PACIFIC SERVICE

Manchester to Los Angeles, San Francisco, Victoria and Vancouver, B.C., via Panama Canal.

Loading Brokers :—Manchester Liners Ltd. Manchester 2.

FURNESS BERMUDA LINE

New York to Bermuda.

JOHNSTON WARREN LINE

Antwerp, Hamburg and Liverpool to Piraeus, Volo, Thessaloniki, Izmir, Haydar Pasha, Istanbul, Black Sea, Roumanian and Danubian Ports

For further information apply :—

FURNESS WITHY & CO., LTD.,

Furness House, Leadenhall Street. London, E.C.3.
Also at LIVERPOOL, GLASGOW, LEITH,
MIDDLESBRO' AND NEWCASTLE.

PRINCE LINE

CANADA & U.S.A. — BRAZIL — RIVER PLATE — BRAZIL
TRINIDAD — U.S.A. & CANADA
U.S.A. — SOUTH & EAST AFRICA — U.S.A.
U.S.A. — FAR EAST — E. CANADA — U.S.A.
U.K. — MEDITERRANEAN — U.K.
ARGENTINA & URUGUAY — U.K.

For further information apply :—

PRINCE LINE LTD. :: 56, Leadenhall St., E.C.3

NEW ZEALAND LINE

PASSENGER & CARGO SERVICES via PANAMA



Particulars from:

J. B. WESTRAY & CO. LTD.,
138 Leadenhall Street, E.C.3.
Tel.: AVENUE 5220

THE NEW ZEALAND SHIPPING Co. Ltd.

PORT LINE

U.K. to AUSTRALIA and NEW ZEALAND

NEW YORK to AUSTRALIA and
NEW ZEALAND

PORT LINE LTD.

CUNARD HOUSE, 88, Leadenhall Street, London, E.C.3
Phone: Avenue 1270. Telegrams: "Portships, Fen, London"

HOULDER BROTHERS & CO. LTD.

Shippers, Insurance Brokers, Passenger &
General Forwarding Agents (Sea and Air)

REGULAR FAST SERVICES to
RIVER PLATE

From Liverpool, London, Bristol Channel & Antwerp
and to SOUTH AFRICA

FREIGHT ENGAGEMENTS made and goods insured and forwarded
By Sea and Air
TO ALL PARTS OF THE WORLD

Head Office: 53, LEADENHALL STREET, LONDON, E.C.3

Branch Offices at Liverpool, Glasgow, Newport (Mon.), Bristol, Swansea,
Manchester, Hull, Southampton, Birmingham, Sheffield, Bradford,
Hanley, Dundee, Cape Town and Sydney (N.S.W.).

Representatives in Argentina and Uruguay: Soc. Anon Houliher Brothers
& Co. (Argentina), Ltd., Buenos Aires, Rosario, La Plata and
Montevideo.

Brazil: Houliher Brothers & Co., Brazil, Ltd., Rio de Janeiro and Santos.

BRITISH & CONTINENTAL STEAMSHIP CO., LTD.

AMSTERDAM. ROTTERDAM. DUNKIRK. ANTWERP. GHENT
& TERNEUZEN from and to LIVERPOOL & MANCHESTER
ANTWERP & GHENT from and to GLASGOW
GHENT from and to BELFAST

AGENTS

LIVERPOOL and MANCHESTER

For Rotterdam, Amsterdam and Dunkirk Steamers: Wilson, Son & Co.
For Antwerp, Ghent and Terneuzen Steamers: J. T. Fletcher & Co.

GARSTON: Ed. V. Turner & Son.

BARROW: James Fisher & Sons, Ltd.

GLASGOW: Clyde Shipping Co., Ltd.

BELFAST: G. Heyn & Sons Ltd.; James Little & Co., (Belfast), Ltd.

ANTWERP, GHENT, TERNEUZEN: John P. Best & Co., S.A.

ROTTERDAM: P. A. Van Es & Co.; Phs. Van Ommeren (Rotterdam) N.V.

AMSTERDAM: Van Es & Van Ommeren - Holland Steamship Co.

DUNKIRK: L. A. De Baecker.

LONDON: Phs. Van Ommeren (London), Ltd., Baltic House, 27, Leadenhall
Street, E.C.3

PARIS: Phs. Van Ommeren (France) S.A., 11, Rue Tronchet, 8e

ORIENT LINE to AUSTRALIA



FOR PARTICULARS APPLY ORIENT LINE
14 COCKSPUR ST., LONDON, S.W.1 Tel. TRA 7141
7 BISHOPSGATE, LONDON, E.C.3 Tel. MAN 3456
9 KINGSWAY, W.C.2 Tel. TEM 2118 or Agents

P&O and B.I.

- From United Kingdom and Continental ports
to EGYPT, ADEN, RED SEA PORTS, INDIA,
PAKISTAN, CEYLON, E. & S. AFRICA,
MALAYA, CHINA, JAPAN, AUSTRALIA, etc.

For details of services, fares, etc., apply—

P. & O., 122, Leadenhall St., E.C.3. • 14, Cockspur St. S.W.1
• 9, Kingsway, W.C.2 •

B. I. (Agents: Gray Dawes & Co., 127, Leadenhall St., E.C.3)

BIBBY LINE

UNITED KINGDOM, CONTINENT,
MARSEILLES, EGYPT, SUDAN, CEYLON
AND BURMA

Air enquiries to —

BIBBY BROTHERS & CO., Martins Bank Building, Water
Street LIVERPOOL, 2.

WILSONLINE, HULL Grams "WILSONS, HULL" Phone No. 16180 (20 lines)

REGULAR SERVICES

From Hull, London, Liverpool, Manchester, Middlesbrough, Newcastle,
Aberdeen, Swansea, Newport, Antwerp, Dunkirk, etc.: to and from
Norway, Sweden, Denmark, Poland, Baltic States, Portugal, Mediterranean
Adriatic & Levant Ports, Egypt, India, Pakistan, Canada & United States.

PASSENGERS Passenger Services to Norway, Sweden, Denmark,
Poland, Italy, United States and Canada, etc.

MARINE INSURANCE Insurances arranged on Cargo by
our own and other steamers to and
from all ports at current rates of premium.

Lighter Owners Forwarding Agents, Warehouse Keepers and Sworn
Weighers Bunkers supplied.

For Rates of Freight, Fares, Insurance, Forwarding, etc., apply to—

ELLERMAN'S WILSON LINE, Ltd., HULL
or Branch Offices at Leeds, Sheffield, Manchester, Birmingham, Bradford
and Grimsby; or London Agents—THE UNITED SHIPPING CO.
Ltd., 108, Fenchurch St., London, E.C.3. London Brokers for Indian and
Pakistan Trade—GELLATLY, HANKEY & CO., Ltd., Dixon House,
1, Lloyd's Avenue, London, E.C.3., or 62, Pall Mall, S.W.1.

THE BANK LINE

OPERATING THE FOLLOWING SERVICES:

AMERICAN AND INDIAN LINE—Calcutta, Chittagong, Rangoon and Colombo to Halifax Boston, New York, Philadelphia, Baltimore and Norfolk (Va.).

AMERICAN AND INDIAN BRANCH LINE SERVICE—Rangoon, Chittagong, Madras, Madras Coast, Colombo and Malabar Coast, (filling up if necessary at Aden and Port Sudan) to Halifax, Boston, New York, Philadelphia, Baltimore and Norfolk (Va.).

BOMBAY AMERICAN LINE—Bombay to New York and Philadelphia.

AMERICAN AND ORIENTAL LINE—U.S. Atlantic and Pacific Coast ports to Philippines, Japan, China, Hong Kong, Indonesia and Malaya, returning to Canada and U.S.A. via Suez Canal.

CALCUTTA TO RIVER PLATE PORTS—Chittagong, Calcutta and Other Indian Ports. Colombo and Malabar Coast to Brazil, Montevideo, Buenos Aires, Rosario and Bahia Blanca.

INDIAN CHILEAN LINE—Calcutta, Chittagong, Rangoon, Singapore and Indonesia to West Coast of South American ports. Calling at Colombo and Cochin when opportunity offers.

INDIAN AFRICAN LINE—Carrying passengers and cargo from INDIA-NATAL LINE—Rangoon, Chittagong, Calcutta, other Indian ports and Colombo to East and South African ports and vice versa. (Vessels of the India-Natal Line also call at Madagascar when opportunity offers.)

ORIENTAL AFRICAN LINE—Carrying passengers and cargo from Shanghai, Hong Kong, Philippines, Saigon, Bangkok and Malaya to Mauritius, Reunion, East and South African ports and vice versa. Taking cargo on Through Bills of Lading from Japan.

U.S. GULF to AUSTRALASIA—Regular sailings from all U.S. Gulf ports to all ports in Australia and New Zealand. Calling at Trinidad en route when sufficient inducement offers.

U.S. GULF to SOUTH AFRICA—U.S. Gulf ports to South and East African ports.

PERSIAN GULF—General Merchants, Export, Import and Ship Agents.

For Freight and Particulars apply to—

ANDREW WEIR
SHIPPING & TRADING CO., LTD.
19-21, BURY STREET, LONDON, E.C.3.

ANGLO BALTIC LINES

U.K. PORTS

to

GDYNIA/GDANSK & FINNISH PORTS

also

KLAIPEDA (Memel) LIEPAJA (Liban)
RIGA and TALLINN

when conditions permit, and sufficient inducement offers.

For further particulars apply to—

UNITED BALTIC CORPORATION, LIMITED,
15B, Fenchurch Street, London, E.C.3

Telegrams: "Orienteako," London
Telephone No.: Mansion House 3311 (8 lines)

MAC ANDREW LINE

SPAIN AND MOROCCO

Regular Services from LONDON, LIVERPOOL and Principal U.K. Ports

Express Service by fast Motorships from
LONDON and LIVERPOOL to BARCELONA

HALL'S LINE To LISBON and GIBRALTAR

Express Service by fast Motorships from LONDON to GIBRALTAR

GLYNN LINE To WEST ITALY and SICILY

For Freight and Passage apply to—

MACANDREWS & CO., LTD.,
19, Leadenhall St., London, E.C.3.

Telephone: MANSION HOUSE 1543

Cunard Building, Water St., Liverpool, 3 Tel: CENTRAL 3922
BRANCH HOUSES at: *Barcelona, *Madrid, *Tarragona
*Castellon, *Burrana, *Valencia, *Gandia, *Denia
*Cartagena, *Almeria, *Malaga, *Seville and Bilbao

Branches with * act as Lloyd's Agents

Agencies in all other principal ports

UNION-CASTLE LINE

to
South and East Africa

WEEKLY MAIL SERVICE

from SOUTHAMPTON

also Intermediate & East African

Sailings from LONDON

Head Office:
3 FENCHURCH ST. LONDON, EC3
MAN 2550 (Passenger MAN 9104)

West End Passenger Agency:
125 PALL MALL, SW1 WHI 1911



ROYAL MAIL LINES

to SOUTH AMERICA
BRAZIL • URUGUAY
ARGENTINA

WEST INDIES
SPANISH MAIN
CENTRAL AMERICA
NORTH PACIFIC COAST



ROYAL MAIL LINES, LTD.

London: Royal Mail House, Leadenhall Street, E.C.3. America House, Cockspur Street, S.W.1.

Liverpool: The P.S.N. Co., Pacific Building, James Street, (2)

P. S. N. C.

LIVERPOOL, BERMUDA, BAHAMAS, CUBA,
JAMAICA, PANAMA CANAL, WEST COAST OF
SOUTH AMERICA.

Also via Bahia Blanca & Punta Arenas

THE PACIFIC STEAM NAVIGATION CO.

Pacific Building, James St., Liverpool, 2

London Agents: Royal Mail Lines, Leadenhall St. E.C.3

Freight: McGregor, Gow & Holland, Ltd.

16, St. Helen's Place, London E.C.3

CARGO FROM

Hamburg, Bremen, London & East Coast U.K. Ports

TO

U.S.A. GULF PORTS

BROWN, JENKINSON & CO., LTD., 113 Fenchurch Street, E.C.3.
WESTBOUND LOADING BROKERS

Galveston, Houston, New Orleans & Mobile
to East Coast U.K. & North Continent

by **ROPNER LINE**

SIR R. ROPNER & CO. (MANAGEMENT)
LTD.

Consiliffe Road, Darlington.
Telephone 2811

SIR R. ROPNER & CO. (LONDON) LTD.

22 St. Mary Axe, London E.C.3.
Telephone: AVE 2153

STRACHAN SHIPPING CO.—New Orleans and all U.S. Gulf Ports.

CAMREX

SUPER QUALITY PAINTS

"CAMREX" NON OXIDIZING PRESERVATIVE
 "CAMARINE" DEEP TANK PAINT
 "CAMLAC" MARINE ENAMEL PAINT
 "CAMERON'S" SHIPS BOTTOM COMPOSITIONS

SUNDERLAND

TELEPHONE 4401 (4 lines)

TELEGRAMS "Camrex"

WILLIAM MORIER & Co. LTD.
 COPLAND ROAD, GLASGOW, S.W.1

SINCE 1836



**PAINTING BRUSHES and
 GENERAL BRUSHWARE**

Specialising in Shipbuilders' Requirements

SHIP DELIVERY

We specialise in the delivery of any
 type of seaworthy craft

Telegrams "Pedanderco" Telephone Mans Ho. 1921/2

PEDDER & MYLCHREEST LTD.

154/6, FENCHURCH ST., LONDON, E.C.3.

ADMIRALTY CHARTS

The LATEST EDITIONS of Charts,
 Plans and Sailing Directions
 published by the Hydrographic
 Dept., can be obtained from

J. D. POTTER, Admiralty Agent for Charts,
 Publisher of Nautical Books,
 and Bookseller.

145, MINORIES, LONDON, E.C.3. (Tel. 1 Royal 1369)

Large Stocks of Nautical and Technical Books of all descriptions.

EAGLE AVIATION LTD.

draws the attention
 of shipowners

to their fleet of Avro York aircraft recently
 increased to six in number. These aircraft
 are ideal for crew movements also for the
 transport of ships' spares.

Maximum economy - Maximum speed.

Head Office:

29 CLARGES STREET, LONDON, W.1.
 Tel: GROsvenor 6411 Cable: Speedlode Audley, London.

Royal Corps of Naval Constructors

A COMPETITIVE examination for entry into the Royal Corps of Naval Constructors will be held about July next. Candidates must be not more than 24 years of age on the 1st October, 1951, unless they wish to claim that their education has been interrupted by compulsory service in the Armed Forces, and must have been engaged in practical shipbuilding for at least 18 months by the date of admission to R.N. College, Greenwich. Graduates of the Universities are preferred.

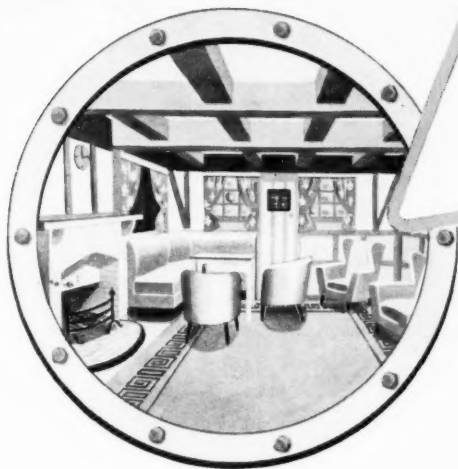
2. Full particulars may be obtained upon application to the Secretary of the Admiralty (C.E. Branch), Bath. Intending candidates must send to that address, before the 1st April, full particulars of their education and technical training, and of their practical experience.

Private Students of Naval Architecture

In conjunction with the above a qualifying examination will be held for private students who desire to take the same course as that prescribed for Officers of the Royal Corps of Naval Constructors under training. Candidates' applications should reach the Secretary of the Admiralty (C.E. Branch), Bath, before the 1st April. A fee of £50 per session is payable by private students taking this course.

INDEX TO ADVERTISERS IN THIS ISSUE

	Page		Page		Page
Anderson, Green & Co., Ltd.	A20	Gellatly, Hankey & Co., Ltd.	A18	Pacific Steam Navigation Co.	A21
Anglo Baltic Lines	A21	General Electric Co., Ltd.	A5	Palm Line, Ltd.	A18
Argentine Airlines	A15	Grayson Rollo & Clover Docks, Ltd.	A17	Pedder & Mylchreest, Ltd.	A22
Bank Line	A21	Halifax Shipyards, Ltd.	A18	P. & O. and B.I. Companies	A20
Bibby Brothers & Co.	A20	Hall, Russell & Co., Ltd.	A9	Port Line, Ltd.	A22
Blue Star Line, Ltd.	A19	Holoplast, Ltd.	A20	Potter, J. D.	A22
Blundell & Crompton, Ltd.	A8	Houlder Brothers & Co., Ltd.	A20	Prince Line, Ltd.	A19
Bristol Aeroplane Co., Ltd.	A7	International Paints, Ltd.	A23	Regent Oil Co., Ltd.	A13
British & Continental Steamship Co., Ltd.	A20	Johnson & Phillips, Ltd.	A10	Ropner, Sir R., & Co. (Management), Ltd.	A21
British European Airways	A6	Lamont, James, & Co., Ltd.	A23	Royal Mail Lines, Ltd.	A21
British Overseas Airways Corporation	A15	Lough, W. & J., Ltd.	A12	Sabena (Belgian Airlines)	A11
Brocklebank, Thos., & Ino., Ltd.	A18	Lister, R. A. (Marine Sales), Ltd.	A12	Sandia Steam Navigation Co., Ltd.	A18
Camrex Paints, Ltd.	A22	MacAndrews & Co., Ltd.	A21	Shell Petroleum Co., Ltd.	A3
Canadian Vickers, Ltd.	A23	Manchester Ship Canal Co., Ltd.	A4	Stanhope Steamship Co., Ltd.	A8
Cayzer Irvine & Co., Ltd.	A19	Mersey Docks & Harbour Board	A8	Taylor Pallister & Co., Ltd.	A18
Clan Line	A19	Metropolitan-Vickers Electrical Co., Ltd.	A14	Trans World Airlines	A6
Cory, Wm., & Son, Ltd.	Front Cover	Morley, Wm., & Co., Ltd.	A16	Tyne Plywood Works, Ltd.	A16
Crewstar, Ltd.	A15	Mory & Co., Ltd.	A16	Union-Castle Mail Steamship Co., Ltd.	A21
Docks & Inland Waterways Executive	A2	Mountstuart Dry Docks, Ltd.	A8	United Baltic Corporation	A21
Dunlop & Ranken, Ltd.	Back Cover	New Zealand Shipping Co., Ltd.	A20	United States Lines	A18
Eagle Aviation, Ltd.	A22	Orient Line	A20	Weir, Andrew, Shipping & Trading Co., Ltd.	A21
Ellerman Lines	A19			Yarrow & Co., Ltd.	A18
Ellerman's Wilson Line, Ltd.	A20				
Furness Withy & Co., Ltd.	A19				



AT HOME ON THE SEAS

Lounges and cabins painted in pleasant colours make people at home in no time. "International" interior paints are specially suited to marine requirements and maintain their freshness under all climatic conditions.

Always look into "International" paints before deciding on interior schemes.

"INTERNATIONAL"—THE GREATEST NAME IN MARINE PAINTS

Registered



Trade Mark

International Paints Ltd

GROSVENOR GARDENS HOUSE, LONDON, S.W.1.

Telephone: VICTORIA 3161 (10 lines)

Also at: Cardiff, Liverpool, Newcastle, Southampton, West Hartlepool, Hull and in all the world's principal ports.



Ship Repairs

IN CANADIAN WATERS

DO your ships call at Canadian Ports...do maintenance and repairs at home take too long?

Then, have this work done by Canadian Vickers Limited at Montreal, Canada.

Unrivalled repair facilities including Dry-dock and complete staff of Naval Architects, Marine Engineers and experienced ship repairers.

**CANADIAN
VICKERS
LIMITED
MONTREAL**

Cable Address: VICKERS MONTREAL
On the shore of the mighty St. Lawrence

JAMES LAMONT & CO., LTD. SHIPBUILDERS & SHIP REPAIRERS GREENOCK & PORT GLASGOW



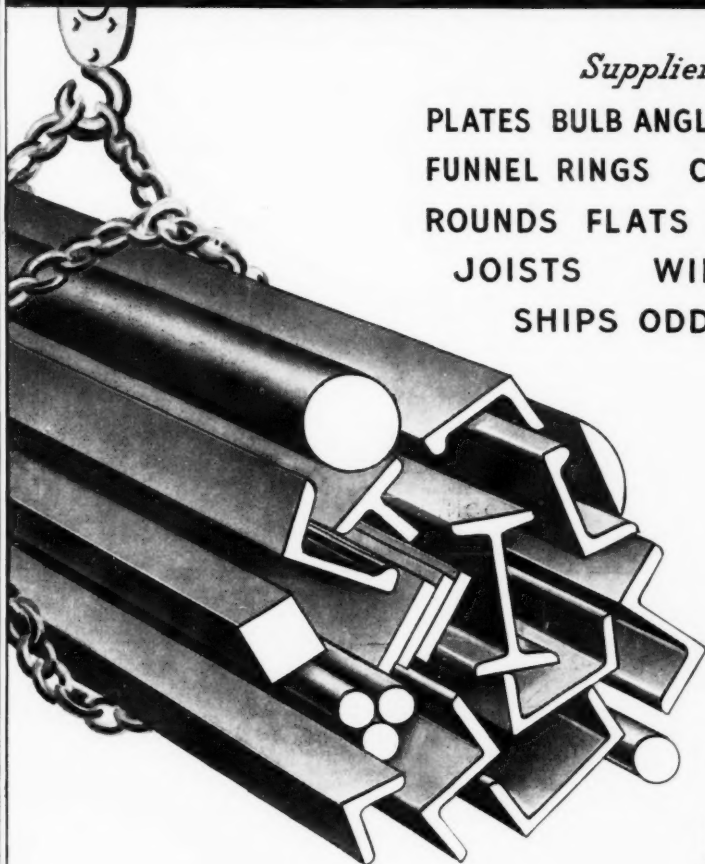
M.V. KNUT JARL

Delivered 1949

Dimensions: 235' x 35' x 23' 6"

BUILDING BERTHS FOR VESSELS
UP TO 300 FEET

STEEL STOCKHOLDERS



Suppliers of

PLATES BULB ANGLES ZED BARS
FUNNEL RINGS CONVEX BARS
ROUNDS FLATS CHANNELS
JOISTS WIRE ROPES
SHIPS ODDWORK

DUNLOP
AND
RANKEN
LTD
LEEDS

Telephone
27301 (20 LINES)

Telegrams
SECTIONS LEEDS

